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SEMINAR PAPERS
ON THE
LOCA[illegible] COINS OF NORTHERN INDIA
C. 300 B. C. TO 300 A. D.

Editor :
A. K. NARAIN
Assisted by :
J. P. SINGH & NISAR AHMAD

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partment of Ancient Indian History, Culture & Archaeology,
College of Indology, Banaras Hindu University, Varanasi-5.

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PREFACE

Indian Numismatics is still full of problems and unsettled issues of many kinds. Even some of the fundamental points are unresolved and need careful attention of the scholars. With a view to bringing the leading numismatists at one place to discuss certain specific problems of numismatics, I organised an all India seminar on the chronology of the punch-marked coins in 1966. My intention was to take up different series of coinage one by one for a thorough discussion in a Seminar and the seminar on the chronology of punch-marked coins was only a start. But certainly this was the first seminar of all India nature on numismatics. In 1966, I planned another seminar on the Local coins of Northern India and invited papers from the scholars. The response of the scholars was very good and we received as many as thirty two papers for the seminar. In the meantime I had to leave for U. S. A., leaving the work of the seminar to my colleagues.

The Seminar was held on 24th December, 1966 in two sittings. It coincided with the 55th all India Numismatic Conference at Varanasi. Professor K. D. Bajpai of Saugar University was in the chair and he also conducted the proceedings. The Seminar was inaugurated by Sri Rai Krishna Das, Hon. Director, Bharat Kala Bhavan. After my return from U. S. A., I was keen to publish these papers at the earliest opportunity. I wanted to publish them by the time of the 56th All India Numismatic Conference at Lucknow but due to unavoidable reasons it could not be done. For this purpose I requested the participants to revise their papers and make it press ready. But unfortunately, with the exception of two, the response was not encouraging. I had therefore no alternative but to do whatever could be done with the papers in the form they were presented to the Seminar in order to expedite publication. I hope the contributors, as well as readers, will excuse us if they find omissions and mistakes or if they are not always provided with the footnotes. I am, however, happy that the papers are now being published on the occasion of the First Indian Archaeological Congress at Varanasi.

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I must express my thanks to all the scholars who contributed their valuable papers and participated in the Seminar. It was due to their co-operation that the Seminar could be organised successfully. In the organization of this seminar the efforts and cooperation of my colleagues in the Department also deserve great appreciation. I am especially thankful to Dr. Lallanji Gopal and Dr. Vidya Prakash who looked after the seminar in my absence and to Sri J. P. Singh and Dr. Nisar Ahmad who helped in the editing work and publication of these papers. I also thank Shree Deenabandhu Pandey who helped in the arduous task of proof-reading. The Eureka Printing Works Pvt. Ltd., also deserve our thanks for bringing out the publication in time.

A. K. NARAIN
3. 2. 1968.

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The Janapada Coins : Their Terminology, Classification and Chronology

K. D. Bajpai

The ancient Indian coins, known as 'Tribal Coins', for an important series of the indigenous coinage covering a long period of over five centuries. The bearing of these coins on political and cultural history of the country, ranging between C. 200 B. C. and the middle of the 4th century A. D., has been acknowledged by scholars. Cunningham, Smith, Allan and a few other scholars have studied these coins in their various aspects and have also attempted their classification. An exhaustive study of these, taking into consideration the latest discoveries, is yet a *desideratum*.

The first point in this connection pertains to the terminology. The term 'tribal coins' used for these coins does not seem to be quite adequate for obvious reasons. The nomenclature '*janapada*' occurring in ancient literature, seems to be more appropriate. The word *janapada* used in the later Vedic texts (e.g. *Aitareya Brahmana*, VII, 14; *Taittiriya Brahmana*, Ch. II; *Śatapatha Brahmana*, Ch. XIII), by Panini and others signifies a community or people of a particular geographical and cultural unit. Early coins, seals and sealings of the Rājanyas, the Mālavas, the Śibis, the Agreyas, etc. clearly mention of the word *janapada* along with the names of these communities, which undoubtedly had republican traits. Apart from the republics or autonomous states, the term *janapada* was used for the monarchical states also. References in this connection can be quoted from ancient Indian texts. In view of these considerations, the term 'janapada', instead of 'tribal' can profitably be used for the indigenous coins under discussion.

The word *Negama* or *Naigama* occurs on some ancient Indian coins previously known from Takshaśilā, and recently acquired from Kauśāmbī. Some coins are known to have been issued by the guilds or corporations of *Gaudhikas* and others[1] Similarly, quite a good number of city names are known to us as occurring

1. See Bajpai 'Authority of minting coins in ancient India', *JNSI, XXV*, pp. 17-21.

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on coins. These names are of Kauśāmbī, Tripurī, Vidiśā, Airikiṇa (Eran), Māhishmatī, Mādhyamikā, etc. These coins with the names of cities or Nigamas were presumably issued by the respective city corporations or guilds of tradesmen. They can be termed as *nagara-nigama* or *naigama* coins.

The second problem pertains to classification. Cunningham can be said to be the first scholar to attempt a coherent classification of these coins on the basis of provenance and typology. He was followed by Smith and John Allan. Allan in his monumental catalogue on coins of ancient India has not only classified the punch-marked and tribal coins under various categories, but he has also tried to deal with, in some detail, their attribution, chronology and the allied problems. Since the publication of Allan's catalogue in the year 1936 considerable new material bearing on the subject has come to light. This has necessitated a reappraisal of various points pertaining to this indigenous coinage, including their classification. Allan has described these coins in an alphabetical order, which cannot be called a sound basis for classification. Moreover he has omitted several *janapadas*. Such omissions are Vidiśā, Kāntipurī, Padmāvatī; Māhismatī, etc. He has not given due attention to the coins of the Mālavas, the Nāgas and to some other ruling powers whose coins were known when his catalogue was printed.

The indigenous coins known to us ranging in point of time between the beginning of the second century B. C. and the middle of the fourth century A. D. and forming the subject matter of the present seminar, are usually known to us from the following regions :—

(i) Panjab, (ii) North-eastern and eastern Rajasthan, (iii) Uttar Pradesh and (iv) Madhya Pradesh, especially the present Mālavā region.

These coins were issued by the following authorities :—

(a) Monarchical states, (b) republics and (c) city-*nigamas* or corporations.

In the case of certain republics, e. g. the Yaudheyas, the Kunindas and the Mālavas, coins bearing both in traits of sovereignty and democracy are known. This may point out to some sort

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of monarchical tendencies growing in the democratic set-up of ancient India.

The coins of the Mitras of the Houses of Pānchāla, Mathurā, Ayodhyā and Kauśāmbī deserve our special attention. The few epigraphic and literary sources known to us have shed welcome light on the mutual relationship between these houses. This as well as the various symbols occurring on these Mitra coins have to be taken into consideration when they are classified.

The Naga coins found at Eran, Vidiśā, Pawāyā (Padmāvatī), Kutwar (Kantipurī) and Mathurā show various common features. The names of rulers occurring on these coins are to be carefully studied and compared to arrive at a correct attribution and chronology of the Nāgas.

It is, therefore, necessary to have a re-classification of the entire *janapada* coinage based on provenance, fabric and type, symbology and palaeography. The contemporary literary and inscriptional evidence as well as the pictorial parallels have to be duly taken into account in this connection.

Finally we come to the problem of chronology. It is generally assumed now that the *janapada* coins under review began their appearance soon after the disintegration of the Mauryan empire after the death of Aśoka. It is difficult to assign, with certainties, some coins bearing the names of *Nigamas* or of cities to Pre-Aśokan period, although there has been some tendency to do this. Adequate startified evidence is not available to us to assign these inscribed coins to the Pre-Mauryan or Mauryan epoch. Senāpati Pushyamitra, the originator of the Śuṅga dynasty, is also not known to have issued and inscribed currency in his name. But the coins of post-Pushyamitra rulers, clearly giving their names, are known to us from various regions in the northern and central India. This tradition of inscribing the names of ruler or those of the republics or *nagara-nigamas* continued right up to the time of the conquest of Aryāvarta by Samudragupta. The Prayāga Praśasti of this monarch is a valuable record. It throws considerable light on the political condition of India during the middle of the fourth century A. D. The numismatic evidence at our disposal has corroborated the evidence of the Prayāga Praśasti to some extent. We are in a position to say that the Nāgas (with their

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several branches), the Yaudheyas, the Mālavas, the Ārjunāyanas, etc. referred to in this inscription, issued their coins also.

Apart from the Prayāga *Praśasti*, several other inscriptions of the period have thrown welcome light on the history of various *janapadas*, known to us from their coins. Special mention may be made of the Jūnāgarh inscription of Rudradāman, the Nāsik inscription of Balasri, dated year 19, the Hathigumphā inscription of Khāravela, referring to Śatakarṇi and Bahasatimitra and several inscriptions from Sāñchi, Bharhut, Nāsik, Mathurā, Kauśāmbī, Pabhosā, Bhītā and Bandhogarh.

The Purāṇas and the Buddhist and Jaina texts refer to several rulers of the pre-Gupta epoch. Several of them have Mitra-ending names. These lists are to be carefully studied in order to obtain relevant evidence to confirm the epigraphic and numismatic evidence.

Important coins, seals and sealings have been discovered in recent years which have furnished valuable information relating to the *janapada* coinage under consideration. In the light of this new material the *Mitra problem* has to be re-examined. Recently some interesting coins have been obtained from Malwa, which I have assigned to the early Śakas of 2nd-lst Century.[1] These coins bear peculiar names, such as Hamugama, Valaka, Dasa and Hauma in the Brāhmī script of the Maurya-Śuṅga period. These names offer an interesting clue to the problem of some inscribed coins, akin to the Mālava coinage, of Rājasthan. Vincent Smith in his catalogue[2] has mentioned these rulers, whose names are Mapayana, Majupa, Mapojaya, Magajasa, Yama, Gajava, etc.

It seems quite tempting to suggest that these are not Indian names but are the names of the Śaka chiefs. The palaeography of these coins would place them between the later half of the first and the first half of the 3rd century A. D. If we rely on the evidence supplied by the coins of the early Śakas, referred to above, we have to acknowledge the position that the Śakas had occupied the Mālavā region much before the time of Kshaharāta Nahapāṇa. They

1. *JNSI*, Vol. XXVIII, pp. 46-50

2. *Catalogue of coins in the Indian Museum*, Vol. I, Coins No. 68-110, Plate XX & XXI.

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might have suffered a defeat in the middle of the first century B. C., but they could not be uprooted from that region.

In the beginning of the second century A. D., finding a congenial atmosphere the Śakas might have re-asserted. One of the Nāsik inscriptions of Ushavadāta, the son-in-law of Nahapāṇa, actually refers to the defeat of the Mālavas at the hands of Ushavadāta. The Śakas might have achieved victory over the Mālavas even before the time of Ushavadāta. The inscribed coins bearing the names, apparently the Śaka chiefs of the Rajasthan area, who issued their coins imitating the Mālava coin-type, i e. tree-in railing and bull-type. It seems that at a later time these Śakas in eastern Rajasthan were defeated by the Mālavas and the Yaudheyas. These two powers are known to have commemorated their victory, obviously on some foreign power, by issuing their currency with the inscriptions *Mālavānam jaya* and *Yaudheya gaṇasya jaya*. This probably happened after 175 A. D. when the Kushāṇa power also in northern India had received a set back.

After their defeat at the hands of Samudragupta, the Mālavas seem to have settled in the Avanti or Western Malavā region.

Lastly the stratified evidence has to be given due weightage while determining the chronology of the *janapada* coins. During the recent years several sites in northern India including Sugha, Ahicchattra, Śrāvastī, Kauśāmbī, Mathurā, Vidiśā, Eran and Tripurī have been excavated. Unfortunately the stratified evidence pertaining to coins unearthed from these and several other sites has not yet been adequately published. This has to be done early in order that scholars working in the field are furnished with the relevant data to work out the chronology of the *janapada* coinage. When a correct chronology of these coins extending a vast period of about 550 years is reasonably fixed up, this may go a long way in tackling several problems related to the political and cultural history of the period.

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On Terminology, basis of Classification and Problem

Jai Prakash

The term 'Local Coinage' is generally taken to denote that series of indigenous coins, which is found generally from Takshaśilā, Eran, Ujjain, Mathurā, Kanauj, Kauśāmbī, Pāñchāla and Ayodhyā together with the coinages of the Audumbaras, Yaudhayas and such other tribes. The former class represents monarchical and the latter the non-monarchical coinage. Chronologically both of them belong almost to the same period and betray a uniform mode of manufacture. Together they constitute, thus, an independent group or class of ancient Indian Coinage. They have many other similarities, in addition to the ones already noted. It was due, mainly to these factors that they were often discussed together.[1] They are both inscribed and uninscribed.

There is not much to be discussed about the terminology of the coins of this series. Allan[2] states, at one place, in his Catalogue that "They may be conveniently referred to as 'tribal coins'." But this may not be accepted as a suitable term to devote the whole series, primarily because 'tribal coins' constitute only a part of this extensive series.

We would suggest that the series, in its totality may be designated either as 'Regional' or as 'Local coinage'. The territorial extensions of both the monarchies and the *gaṇas*, that issued these coins, were rather modest, and therefore, similar was the area of their circulation. This is confirmed, in most of the cases, by the provenance of the coins of a particular 'area' or tribe, which lends considerable justification, for the adoption of one of the two terms suggested above. But there is not much difference between the two terms and, broadly speaking they are inter-

1. Cunningham, *Coins of Ancient India*; Chakrabortty, S. K., *A study of Ancient Indian Coins*; Allan, *BMC, AI*.

2. *BMC, AI*, p. xiv; but at another place in the introduction part of the said catalogue he refers to them as "coins which have been attributed to particular dynasties or districts... . " p. xiii.

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changeable and often used as variants. And hence, we favour the term 'Local Coinage', mainly because, this term has been in use for the past sometime[1]. The topic of the present seminar 'Local Coinage of Northern India (excluding tribal)' implies the inclusion of the tribal coinage in this series, but has been excluded from the topic of the seminar for convenience to contain it within manageable limits. Thus the term Local Coinage, is now, usually taken to denote all tribal, monarchic, and naigam coins together with the issues bearing the names of certain cities.

The history of the use of the term Local for the coins of this series is not known for certain. But we feel, that it was implied even by Cunningham when he discussed and described the coins locality and tribe wise[2]. The same pattern was followed by most of the succeeding writers on the subject. This statement of ours finds support in Allan's statement that the coins in his catalogue were attributed to "particular dynasties or districts.....",[3] on different grounds. Rapson in his *Indian Coins* (1897)[4] has briefly discussed these coinages under the Section VI 'Coins of Native Indian States from the Earliest times to c. 50 A. D.'

In all probability Vincent Smith was the first scholar to use the term 'local' for the coins of this series. 'Section VI' of his *Catalogue of the Coins in the Indian Museum Calcutta*, I, is entitled as 'Local coins of Northern India[5]'.

The coins under discussion are treated in Marshall's *Taxila*, under the title 'Local copper coins of Taxila[6].

However, it appears that the series of Ancient Indian coins under discussion was also sometimes styled as 'Indigenous coins or coinage.'[7] This term is indicative of the Indian character and

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1. Smith, *IMC*, I. pp, 143ff.
2. Cunningham, *Coins of Ancient India*. Smith writing about the Local Coins of Northern India says, "that first definite step in such localization of the ancient coinages was taken by the publication in 1891 of *Coins of Ancient India by* Sir Alexander Cunningham.....". *IMC*, I. p. 143.
3. *BMC, AI*, p. xiii.
4. pp. 10ff.
5. *IMC, I*. pp. 143ff.
6. *Taxila*. II. pp. 753ff.
7. P. L. Gupta, *Inde x*.

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nature of the coins of this series; that it was mostly uninfluenced by any foreign numismatic tradition. But that alone need not be taken to approve this term.

All state coinages are struck for being in circulation within the territory of its issuing authority with a view to facilitate exchange of goods among individuals or parties concerned. If the area of circulation of any such coin is limited, and is not as extensive as that of the Mauryas, for instance, it could not be termed as an imperial coinage in the Indian sense. The purity of metal and the intrinsic value of a coin leads to its acceptability in interstate commercial transactions. Within the state of its origin, however, it circulates because of the authority of its issuer who has guaranteed the genuineness of the piece by putting his mark on it. Copper and other coins of cheaper metals do not invite a willing acceptability and hence their circulation is usually confined to the area or locality of their issue.[1] The same must, therefore, be true about the coins that we are concerned with at present.

Rapson opined that Indian coinage was local in character. In our opinion, this local character of Indian coinage lies in the local character of the Ancient Indian State. Indian States, for the most part of the ancient period were small local states except probably under the Mauryas.[2] But as all other coinages are known mainly

1. Smith says that this may lead towards a determination of the 'locality of their mints' on the basis of their provenance. *IMC*, I, p. 113.

2. A majority of punch marked coins have been termed by some scholars as imperial punch marked coins. These supposed imperial coins are ascribed to the Nandas and the Mauryas. But if the evidence of the subsequent coinages is indicative of a strong, well established local numismatic tradition in nearly the whole of India then we think the origins of that tradition must be looked for in the development of the punch marked coinage. We feel, that all punch-marked coinage must have been local in character. If Allan's (*BMC, Al*,.p, xix regular silver punch marked coinage—the one found nearly from the whole of India—is taken as the coinage of Madhyadesa, the imperial punch marked money of Dr. Gupta must also belong to the category of a local coinage. These coins must have travelled far and wide in the country in considerable numbers, due primarily to their intrinsic value, and may have provided the pattern for a local manufacture. The majority hoards of punch marked coins; found from outside Madhyadesa should therefore be attributed more to the wide acceptability of the pieces as silver, in trade and commerce, than to have been an Imperial currency, if that is what is

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after the names of their respective dynasties etc. they could not now be called by any other name.

After the decline of the Mauryas nearly the whole of Northern India saw the rise of several small independent States. Most of these at least those that rose to some political prominence are known from their coins found from their respective Kingdoms, the extent of which could be determined on the basis of the provenance of the coins.

The dynasty of the Mitras of Pāñchāla was probably one of the earliest to establish, its independence sometime after Aśoka. According to Allan the Pāñchāla Mritra 'dynasty was in existence before the Śuṅgas, if we date the accession of Pushyamitra about 184 B. C.'[1]. A dynasty of local kings similarly seems to have established itself in power at Mathurā, who may have asserted their independence from the Mauryas towards the beginning of the second century B. C.[2] And later during the reign of Pushyamitra the Mathurā and the Pāñchālas, with the help of the Indo-Greeks, attacked Sāketa and Pāṭaliputra[3]. The characteristic features of the coinages of Mathurā and Pāñchāla are peculiar to those territories and are not met with anywhere else. Similarly, the extant local coinage of Kauśāmbī, represents the official currency of the Kingdom of Vatsa and must have followed in the steps of Mathurā and Pāñchāla, probably around the middle of the second century B.C. Likewise, the coinages of Ayodhyā, Kanauj, Malavā, Eran, Ujjain and Taxila etc. represent the official issues of their kings. All these coinages, have their own peculiar local features, which are not usually found on any of the remaining coinages and this characteristic feature distinguishes them from other sister coinages.

Therefore, under the circumstances briefly pointed out above, we have to suggest that the 'local character of the coinages of different localities is their most distinguishing feature and hence

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meant by Imperial Series. And that all such hoards should be studied in that particular context. This money of the Madhyadesa may have slavishly been imitated in other adjoining kingdoms and provinces.

1. Allan, *BMC, A I.*, p. cxxi; Altekar, *JNSI*, xiii, p. 145.
2. Ibid. p. cxvi.
3. *Indo-Greeks*, p. 85 ff.

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it should be taken as the main basis for their classification. Internal classification of a local coinage will be based on a study of the symbol groups for uninscribed, and kings, guilds, and city for inscribed coins; typological variations will determinine varieties etc.

Problems of Local Coins

Writing about the local coins Allan[1] says that, "in dealing with the coins of ancient India we are at once faced with the difficulty that there is an unparalleled lack of historical, geographical, and chronological data which might enable us to arrange the coins of a dynasty in order, or in any way to check suggested attributions. Literary and epigraphic sources alike can do little to help us. The evidence of provenance which would often be of value has unfortunately not been recorded in such detail as to be useful for chronological purposes, although it yields a certain amount of vague geographical information....." But since Allan's work was published things have changed considerably, and many coin types representing new varieties and classes with definitely known provenance have been added to our knowledge. It is high time now to study all the available material in its totality to arrive at certain historical conclusions.

I. Attribution and Distribution

It will not be out of place to refer to some of the more important problems of the local coinage of the country. The indigenous development of money from punch-marked to the local coinage is a very problematic one, so far as its attribution, is concerned. The coins under discussion, seem to be the direct successors of the punch-marked money as is indicated by their shape, weight and symbology. The earliest of these, like their punched predecessors, are uninscribed and contain only symbols on either sides. The symbols occur singularly as well as in groups, on these coins. This renders their attribution rather difficult, so far as their issuers are concerned. These coins are followed in point of time, by the coins which are technically similarly manufactured with almost similar

1. *BMC, AI.* p. xiv.

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symbols or groups thereof, but containing in addition the names of their issuers. On the basis of these brief inscriptions, the issuer of the coin type is known, and its provenance may help us to determine with some possibility the region of its issue and circulation.

Thus a close and minute study of all the inscribed coins of a particular region may help us to ascertain whether all uninscribed coins of that region were issued for circulation there itself or elsewhere. This method will, however, enable us to determine only the area of its currency and issue. But again, even this may prove to be a mere academic exercise because there may be a considerable difference between the symbologies of the uninscribed and inscribed coins of a region; for example the symbols on the coins of some kings of Pāñchāla are not those that are usually found on the issues of most of the Mitra kings of that locality. Such a break from tradition, may thus be taken to indicate a change of the dynasty. Such a study therefore, based on the provenance of a coinage may ultimately indicate quite few other historical informations. The problem of the distribution of these coins is connected with their provenance and should be discussed in that light.

2. Chronology

The period of the origin and circulation of the local coins is although generally fixed between 300 B. C. to 300 A. D., yet it remains to be fixed with certainty. So far, these coins have been dated, in absence of any other positive evidence, on stylistic and palaeographic grounds. But none of these grounds are secure, as two different scholars often date the same coin rather too differently. The date—the earliest and the latest—of the coins of this series, we feel, can be fixed on the basis of their occurrence in stratified layers in different excavations. This archaeological method of dating is likely to provide an approximately correct chronological picture of these currency. Besides, a study of the hoards of such coins, which contain coins of a definitely datable series together with local coins[1], may also be taken up to achieve

1. On the basis of a similar study elsewhere I have tried to suggest the latest date of the currency of punch-marked coins.

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this objective. Thus all the grounds, such as stylistic palaeographic, archaeological and that of the composite hoards may help us to fix their date.

The next stage will be to date the uninscribed and inscribed coins, in their particular local context. This will again have to be based on similar grounds. It is generally held that uninscribed coins are earlier than the inscribed ones; and among the inscribed coins those with the title *rājā*, *raña* or *rañ*ɔ are considered to be later than those that contain simply the name of the issuer. It can be checked whether stylistic, palaeographic, stratigraphic or any other evidences confirm such chronological differentiations.

3. Metrology

In our ancient literature, we have several references to many copper coinages and their multiples. These works give weights of the coins. But so far this literary material has been discussed either only in connection with the punch marked coinage or alongwith it. But as the punch-marked copper coinage is rather scarce, we feel, that some such literary numismatic terms may possibly be correctly identified with some of the local copper coinages mainly on the basis of their weight standards. A correlation between the literary and the available numismatic material is very essential, primarily with a view to have a more clear picture of the economic conditions of the time. Further, it has also to be checked finally whether the weight of the local coinages differed from locality to locality. If the standard weights of these coinages were same or approximately same then possibly it can be suggested that the economic conditions in all or most local kingdoms were more or less similar, but their differences may indicate their relative economic stability etc.

4. Symbology

The symbols frequently occur on most early Indian coinages. But this aspect of the study of local coins, like most other aspects, has remained neglected so far. On the contrary much attention has been given to the study of the symbols on punch-marked coins. For instance, on the basis of these very symbols the punch-marked coins are classified and assigned to different periods and dynasties. Some attempts have also been made to identify their issuers. If

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this is all true about the punch marked symbology, it must also be true similarly about the local coins-especially the uninscribed ones. Whatever might have been the real significance of the symbols on these coins, it certainly was the same on both the punch marked coins and the coinages under study. We feel, that originally they must have either appeared as the symbols of the State or the King i.e., the issuing authority, whosoever it might have been. But gradually when the custom of issuing inscribed coins became more popular, that original purpose of symbols started giving way to religious connotations. Still later, however, these religious symbols inspired the rulers to place the figures of gods and goddesses on coins, both in animal and human forms.

A study of the symbols on the coinages concerned and their development may perhaps enlighten us on some of these points.

5. Guild and City Tokens

Another important problem connected with the local coinage is concerning the issues of the guilds and the cities. Pieces bearing the names of guilds etc. are mostly found from Taxila; some such specimens have, however, been recently reported also from Kausāmbī. But the pieces inscribed with the names of some cities are found from many ancient sites. They have many differences from the regular local issues of a particular state or kingdom, and besides they are found in rather modest numbers, all of which leads one to doubt their being struck as coins. They may thus have been some sort of tokens issued by guilds and the corporations of the cities concerned respectively.

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Basis of Classification, Terminology and Some Problems

Nisar Ahmad

The dream and efforts of centuries for United India achieved by Chandragupta Maurya could not lost for long and soon after the death of Aśoka, the mighty Magadhan empire started shattering. Pushyamitra tried his best to keep various regions under one sceptre, but his efforts failed to restrain to the disjunction of the peripherial regions[1]. Again, the insect of disunionism widely prevailed in the empire, after the death of this lieutenant, started moving fast. It coincided with the presence of the Indo-Greeks on the north-western horizon of India and the inroad of Menander in the Gangetic valley, being animated by the hostile attitude of the Śuṅga officials. Therefore, on the ruins of the great Magadha, sprang dozens of principali ties.

The rise of the foreign powers and the foundation of the Kushāṇa empire subdued to these independent indigenous localities. But after the death of Kanishka I, these principalities seem to have raised their heads. The re-emergence of these indigenous governments played two dimensional role, on one hand the downfall of the foreign power and on the other the rise of the Guptas who revived the imperialism and brought again the laurel to the east, Pataliputra.

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1. The extent of Pushyamitra suzereignty beyond the river Narmadā was reduced upto Vidarbha. The expire of Sātavāhanas came up in Deccan soon after the death of Aśoka or a little later. In the east Kaliṅga declared its independence. In the north-west, according to the Greek writer Polybius, an Indian independent king Sophagasenus (Subhāgasena), was ruling in the last quarter of the 3rd century B. C. He or one of his predecessors, was probably the governor of the Mauryas and later became independent. Taxila repeatedly revolted in the times of the mighty Maurya emperors, and in all probability became independent Sāliśuka.

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Numismatic evidence reveals to the existence of the monarchical form of government in the present Uttar Pradesh—Vārāṇasī, Kauśāmbī, Ayodhyā, Ahichchatra, Mathurā and Śrāvastī—and the eastern Madhya Pradesh—Eraṇ, Tripurī, Vidiśā, Ujjain and Padmāvatī and Taxila in north-west India. The tribal republics viz., Rājanyas, Vrishṇis, Śibis, Trigartas, Agodaka-agachas, Kuṇindas, Uddehikas, Mālavas and Yaudheyas flourished in Rajputana and the adjoning regions.

However, it may be noted that the coins bearing the names of the cities found from the places where the monarchic coinage occurs, such as Vārāṇasi, Kauśāmbī, Śrāvastī, Eraṇ, Tripurī, Ujjainī, Bhagila and Māhismatī, suggest that at the time of the proclamation of independence by different localities, the sovereinty was vested into a corporate body, but soon, as these regions were accustomed of monarchical system of rule, the sovereignty shifted from corporates to individuals.

When these local states emerged cannot be said with certainty. According to P. L. Gupta the beginning of these states commenced in the last quarter of the 3rd century B. C., but D. C. Sircar rightly points out that "since the fashion of mentioning the name of the ruling authority the coin-legend was inspired and popularised in India by foreign kings beginning with the Indo-Greeks, most of the coins bearing such legends should preferably be assigned to a date later than the early decades of the second century B. C." He also strenghthens his contention by placing the palaeographical evidence that "even the earliest inscribed coins do not appear to be earlier than Besnagar inscription of the end of second century B. C. The angular form of letters exhibited by most of these coins cannot be much earlier than the age of Ayodhyā inscription of Dhanadeva (end of the first century B. C.) and of the records of the Śakas of Mathurā (beginning of the first century A. D.)"[1]. "Most of the coins with Brāhmī legends show angular and developed forms of letters *j*, *l*, *h*, *m*, *n*, etc[2]".

The coinage which followed to punch-marked coins are cast and die-struck, with both characteristics uninscribed and inscribed.

1. *The Age of Imperial Unity*, p. 159.
2. Ibid., n. 1.

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The metalic pieces bearing the tribal legends are called by Cunningham by tribal names whereas the coins uninscribed and inscribed with king's name found from certain localities are mentioned under place names[1]. Smith used the nomenclature, 'local coinage' for those metalic pieces which were found from certain localities and 'tribal coinage' to those money which had some tribal legend[2]. He seems to have been inspired by the former great numismatist as he himself writes that the first definite step in such localization of the ancient coinages was taken by Cunningham.[3] Allan designates to both the groups of coins as 'Tribal Coins' and arranged them alphabetically[4]. However, in the 'Introduction' he writes that these coins "have been attributed to particular dynasties or districts on the authority of their inscriptions, types, or provenance"[5]. P. L. Gupta[6] and C. R. Singhal[7] categorise these coins under the headings of 'Ancient Indigenous Coins' and 'Indigenous Coinage', respectively. Mrs. Sudha Narain kept them under the title 'Coins of Local Indian Kings and Kingdoms—300 B. C. to 4th century A. D.'[8] Altekar applied the term 'local coins' for the currency of Eraṇ, Ujjain etc.[9].

Jai Prakash in this Seminar advocates to adopt the term 'Local Coinage' for all the tribal, monarchic, naigam and city coins. It must be noted here that the southern part of central India enjoyed the spirit of local autonomy governed by monarchic system or divine principle whereas the republican regions were led by the constitution of tribal supremacy headed by a body or a tribal chief. Moreover, some of the tribes are recorded in Alexander's

1. Cunningham, A., *Coins of Ancient India*, Varanasi, pp. 60 ff.
2. Smith, V., *Catalogue of the coins in the Indian Museum Calcutta*, Vol., I., pp. 143-183.
3. Ibid., 143.
4. Allan, J., *Catalogue of the coins of Ancient India*, pp. lxxix ff.
5. Ibid., p. xiii.
6. Gupta, P. L. *Index to the Journal of the Numismatic Society of India*, Part I, pp. 15-16.
7. Singhal, C. R., *Bibliography of Indian Coins*, Part. I. pp. 12-31.
8. Narain, S., *Index to the Journal of the Numismatic Society of India*, part II, pp. 30-32.
9. *Bibliography of Indian Coins*, p. 19. No, B. 33.

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time to have occupied parts of Punjab. Afterwards they slowly moved to downwards. Hence, when they got the chance of asserting their supremacy they were bound to continue their old pattern rather than following the traditions of Ganga and Narmada valleys. Hence the coinages of both trends must be differenciated. K. D. Bajpai says that "the term 'tribal coins' used for these coins does not seem to be quite adequate. For the reasons, the nomenclature 'Janapada' occurring in ancient literature, which is supported by the numismatic evidence, seems to be more appropriate". But all the coins may not be called 'Janapada' coinage as part of them do not contain any republican name. This indicates that they were issued by the authorities having quite different system of government from Janapadas and hence these coins may not be designated by a quite non-applicable term.

Therefore, with the above consideration, the coins issued from the monarchic headquarters having distinguished characteristics may be named as 'Local coinage.' The currency bearing tribal names must be designated as 'Tribal Coinage.' The coins of Naigama and cities may be included in the group of 'Local Coinage.'

Here, humbly, I take the opportunity to place some problems before you distinguished scholars :

1. When the Local Coinage was introduced ?
2. Did the cast coins preceded punch-marked ?
3. When 'die-struck' technique was employed in India and especially in Gangetic Valley and Central India ?
4. Why mainly copper was used for these currencies ?
5. Whether the city states coins are 'token issues' or 'currency' ?
6. Did the Śuṅgas issue coins ? if not, why ?
7. Did the coins with Mitra-ending names belong to different dynasties ? If it was the fact, then was it a fashion of adopting this common ending name by the rulers of that time ?
8. Were Mitras connected with Śuṅgas ?
9. Why some common symbols occur in the symbol-groups of the regional-centres ?

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Geographical Distribution, Chronology and the Issuing Authority of Local Taxilan Coins

Jai Prakash

The ruins near modern Shāh Dheri or Dheri-Shāhan, about 20 miles N. W. of Rawalpindi, now the Capital of West Pakistan, are identified with ancient Takshaśilā.[1] The local die-struck and cast copper coins found from the said ancient city and the neighbouring ruins are taken to represent the local coinage of the kingdom of Taxila.[2] Cunningham, whose coins of Taxila are catalogued by Allan[3], were all obtained by him at Sirkap, one of the three main sites representing ancient Taxila. The two other sites of the city — namely Bhir Mound and Sirsukh, have also yielded coins of this type in considerable numbers[4]. Of the said three Mounds of Taxila, the first two are known more for their archaeological materials than the last i.e. Sirsukh. Majority of Cunningham's coins were recovered from Sirkap[5]. Another major discovery of the local coins from Bhir Mound and Sirkap, is perhaps that which was made there during Marshall's excavations. In his report of the excavations, it is stated that 179 copper coins were found from the Bhir Mound. Out of these "134 come from the second or Mauryan stratum, thirty-three from the surface stratum, seven, which were found less than 2 ft. below the Maurya foundations, were doubtless buried there during the Maurya period, and the other three specimens, as well as the two from the fourth stratum, may reasonably be presumed to have been strays[6]". These coins are ascribed in the report to the "Settlements of the Maurya and autonomous periods[7]". As against the rather small number of

1. *ASR*, II, pp. 111-35; V, pp. 66-75; XIV, pp. 8-24; cf. also Coins of Ancient India (1963), p. 60.
2. Allan, *BMC, AI*, p. cxxv.
3. Ibid.
4. For local Taxilan coins from Bhir and Sirkap Mounds see Marshall, *Taxila*, II, pp. 756 ff.
5. Allan, *BMC, AI*, p. cxxv.
6. *Taxila*, II, p. 756.
7. Ibid.

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coins found from Bhir Mound. Sirkap is said to have yielded 502 coins. It is further stated in this connection that "of the 25 types and varieties brought to light in Sirkap only 11 were represented among the Bhir Mound coins[1]". Marshall's *Taxila* report, however, shows that only one local coin was found from Sirsukh[2]. M. K. Thakore has also published 'some varieties of Taxila coins' but he has not written anything about their provenance[3] i. e., from which of the said three sites his coins were obtained. Six coins of Taxila type, two from stratified levels and four from surface- are reported from Māheshwar[4]. D. B. Diskalkar has published some coins from certain private collections of Indore and Ujjain, two of which are called by him as Taxila type coins[5]. Some Taxilan type coins are also reported from Rajgir. But the discovery of stray coins of Taxila type from elsewhere may not necessarily be taken to show that these Taxilan coins were issued by the Mauryas for being in circulation in nearly the whole of their kingdom.

The Taxilan copper coinage forms "a homogenous group, distinct from other groups of copper coins of ancient India, such as those of Ujjain. Their similarity in style and the limited number of symbols and single types suggest that they do not cover a great period in time." On the basis of the existence of the hollow cross and a three arched hill surmounted by crescent, which are frequently found on cast "coins from other parts of India suggests that the latter are contemporary with the former issued by order of the same authority, one mint favouring striking and the other casting" is, however, untenable, because the peroid to which these coins may be ascribed was no paramount authority which could have controlled and governed them. I would not share the view of Allan that these coins were struck by 'Maurya governors.' Taxila during even the reigns of the powerful Mauryas was very quick to revolt and assert its independence. It may thus

1. *Taxila*, II, p. 756.
2. Ibid, I, p. 221.
3. *JNSI*, IX, 1, p. 98 ff.
4. Sankalia, H. D. and others, *The Excavations at Maheshwar and Navdatoli* pp. 72-73.
5. *JNSI*, X, p. 38.

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be suggested that probably soon after Asoka's death Taxila, also became free of the Mauryan rule, may be under its previous governors and struck a new coinage of its own. The coins continued to be struck till its fall to the Indo-Greeks. Marshall's view that these coins were struck even after the Greeks and probably also the Śakas on the basis of the stratigraphic evidence is, however, wrong. For this coinage is very homogenous and shows no break. Besides had some of these coins been struck after the Indo-Greeks and the Śakas they must have incorporated atleast some of the characteristics of the preceding foreign coinages. Thus in the absence of any noticeable foreign elements on these coins, on the basis of their homogenity, and typological uniformity, it can well be suggested that all of them were issued before the Indo-Greek conquest of Taxila. After the Quarters of the city changed to Sirkap much of their business naturally got transferred to it and attracted a majority of the pre-Indo-Greek currency in the bazars of Sirkap. The new varieties etc. of local Taxilan coins, known from Sirkap and unrepresented in Bhir Mound may be taken to show that their issue more or the less synchronised with the fall of that Quarter of the city, the money must have been, therefore, hoarded and spent later at Sirkap.

A main class of the coins of Taxila consists of the series, called the *Negama*, the *Pañchanckame* and the *Hirañsame* series. Those of the new varieties of coins, reported in *Taxila* from Sirkap, as belong to this series, will reduce the chronological problem of the issue of Taxilan coins as suggested in the said work in our favour. For the pieces of the groups cited above, do not fall in the same groups as the other local coins of Taxila; mainly because these tokens being issued by mercantile guilds and similar other bodies, had an altogether different purpose and objective than those of the regular coinages found from a number of places throughout Northern India. The distinction between these tokens and the uninscribed local coinage of Taxila is quite apparent.

The tokens of *Pañchanekame* and *Hirañsame* class however contain even some symbols. Some of these symbols also occur on the uninscribed pieces. But the symbol groups of the token cannot be connected with those of the uninscribed pieces, as they are mostly different. The symbol groups of the *Hirañsame* class are

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more like those of the regular copper pieces. The imitation of this type by a later Indo-Greek king need not be taken to show that its original Taxilans were also issued to pass on as regular state coins.

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Similar negama and guild tokens have lately been published in the volumes of *JNSI*[1] from Kauśāmbī. It has sometimes been suggested primarily on the basis of these coins that merchantile guilds were empowered to issue coins in ancient India.[2]

It is quite possible that some of the ancient Indian kings may have employed the services of goldsmiths and silversmiths or may have empowered them to issue coins, for and on behalf of their state-governments. But we cannot conclude this merely on the basis of the existence of the *Negama* series. The *Negama* series pieces are so different from the rest of the local coinage of their own provenance, are so meagre that they cannot be taken to have ever circulated as an official currency of either Taxila or Kauśāmbī. The *negama* series of Taxila failed to influence the regular cast and die struck coinage of the kingdom which remains all through an uninscribed money. This also shows the non-monetary nature of the *Naigama*-tokens. The *Naigama* tokens from Taxila are inscribed—sometimes being monoscriptual but often being biscriptual. The use of Kharoṣṭhī on these pieces should therefore be taken to show that they were struck by aliens—which is further confirmed by the occurrence of such un-Indian names on a class of these pieces as Dojaka, Atakatakā, Rālimata, Kadare, etc. Between the Mauryas and the Indo-Greeks—the period of a majority of these tokens—Taxila is not known to have been controlled by any foreign tribe, therefore, they must have been struck by different mercantile guilds of foreigners settled in Taxila. These pieces might have been struck for being used as entry tickets to the business quarters concerned.

A passage of the *Visuddhimagga* of Buddhaghosha has often been taken to confirm the hypothesis that issue of coins—especially that of the punch-marked coins—was largely a private affair; the

1. *JNSI*, XXVIII, II.
2. *JNSI*, XXII, p. 42; XXV, I, pp. 17ff; cf also, *JNSI*, XX III, p. 30 f.

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coins being issued by silversmiths or corporations of traders etc. But there is nothing in that oft-quoted statement of Buddhaghosha supporting this. It only shows that a *Heraññika* or coin-examiner will know the name of the village, city quarter, city, hill or river-bank where the coins were manufactured and by which āchārya. This passage only shows that the symbols had a definite meaning and that the mints functioned under state officers, at places like the ones mentioned above. Thus the private issue of ancient Indian moneys on the basis of Buddhaghosha is not correct.

On the other hand whole series of inscribed North Indian local coinage is a state coinage--issued either by kings or republican tribes. The uninscribed coinages of particular regions are known to have preceded this coinage and hence issued similarly. This may also be taken to show that the punch-marked coinage also therefore must have largely been a state coinage.

The *Negama* and city-name bearing pieces do not fall in this majority category and hence have to be taken as some sort of tokens rather than as currencies.

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Early Local Coins from Rajasthan

R. C. Agrawala

Archaeological Excavations at Rairh, 56 miles from Jaipur in Rajasthan, brought to light a number of interesting local coins as well. The details of the same have been very well discussed by K. N. Puri, the excavator, in his report.[1] These valuable finds have now been preserved in the Central Directorate of Archaeology & Museums at Jaipur and deserve close scrutiny by experts of Ancient Indian Numismatics. The coins of local variety, from Rairh, pertain to the centuries before the Christian Era and may be discussed in brief in this paper.

I. Senapati Coins.

The lot of six copper coins bearing Ujjain symbol and legend *Senāpatisa Vachhaghosa*, in two lines on the obverse, and humped bull on the reverse is very interesting. They have been dated as early as the third-second century B. C. on palaeographic grounds.[2] Their weight ranges from 32.40 to 99.88 grains, the details of the shapes being as follows :—

Rectangular	= 2 coins.
Round	= 1 coin
Square	= 3 coins
Total	= 6 coins

All of them are in copper. K. N. Puri,[3] suggested that these were issued by some Commander-in-Chief named Vachhaghosa (=Vatsaghosha); he associated him with Pushyamitra Śuṅga, the founder of Śuṅga dynasty. D. C. Sircar[4] read the legend as Vachhāghosa and thought that he was a *Senāpati*, semi-indepen-

1. *Excavations of Rairh*, pp. 63 ff.
2. *Rairh*, pp. 50-51, plate XXVI, 6, 7, 8.
3. Ibid, pp. 50-1.
4. *JNSI*, IV, 148-49.

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dent provincial Governor of the unknown ruler. A. S. Altekar[1] suggested that he was probably a general of the Yaudheya or the Árjunāyana republic but that does not appear to be a plausible identification. Rairh was included in the *Mālava* principality, it was another seat of the Mālavas; the place was not far from the famous stronghold of Mālavas i. e. Nagar or Karkoṭa Nagar or Mālavanagara. Both of these places (Rairh and Nagar) are so near Toṅk. Besides this, we have recovered a lead Seal bearing the legend *Mālava Janpada*[2] from Rairh itself[3]—a fact which proves that the place was included as a Mālava seat as early as the second century B. C. still more, Puri collected about 280 Mālava coins from Rairh itself[4]. Can the *Senāpati*, on the above copper coins, be associated with some early Mālava Chief ? We do find, of course, during the 3rd and 4th centuries A. D., that the *Senāpatis* were in power at certain republican centres of Rajasthan. But whether they were so powerful during the early centuries before Christ, is still to be substantiated from literary or archaeological data.

Very recently, K. K. Dasgupta[5] has come forth with the suggestion that Vachhaghosa (Vatsaghosha) on Rairh coins may be taken as a place-name. He refers to a literary reference in relation to *Maru* desert country in the *Bṛhatsaṃhitā*[6] i. e. *Maru-Vatsaghosha Yāmuna Sāraswata Matsya-Mādhyamikāh*. Das Gupta, referring to the legend Gomitasa Bārānāvā on early coins from the Bulandshahar district of U. P., asserts that *Gomitasa* is the name of the issuer and Bārānāvā is Baran, the name of the place. Working on this analogy of Das Gupta, *Senāpatisa* on Rairh coins shall have to be taken as a personal name instead of a military title. Das Gupta adds that "Vachhaghosha was the name of the mint town wherefrom the coins in question were issued by one *Senāpati* who was either a Provincial Governor of some unknown king or perhaps

1. *JNSI*, XIII, no. 1, p. 7.
2. In *JNSI*, 27, No. 2, 1965, p. 125, Jai Prakash interprets the word *Janapada* in relation to tribal coinage as denoting the "people."
3. *Rairh*, p. 71, plate XXVI. 22.
4. Ibid, p. 65.
5. *JNSI*, XXVIII, No. 1, pp. 50-52.
6. XIV. 2.

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Pushyamitra Śuṅga". It is of course not plausible to hazard any definite opinion in this connection. *Senāpati* might have been a contemporary of Pushyamitra or his successor as well

II. Vapu Coins

The site of Rairh also yielded seven copper coins, square in shape and bearing the legend *Vapu* on obverse in the *Brāhmī* script of 3rd-2nd century B. C., other details on obverse being the Ujjain Symbol and the mountain; Ujjain & Solar symbols appear on the reverse.[1] Their weight ranges from 4.04 grains to 56.68 grains. Puri[2] had suggested that *Vapu* was probably another unknown name of a Mālava chief". Such coins have not been reported from any other site till now and may well be grouped in the list of early local coins from the site of Rairh. K. N. Dikshit rightly assigned a date between 250-150 B. C. to these *Vapu* coins, mainly on palaeolographic considerations.

III. Mitra and Sudavapa Coins

The discovery of 14 copper coins of Mitra rulers at Rairh is all the more interesting. Coins, represented in this group, were those of Śurya Mitra, Brahma Mitra and Dhruva Mitra. All of them are from the contemporary Mitra coins from Kannauj, Mathurā etc., and it is essential to identify the Mitra rulers on the Rairh coins. S.K. Dikshit,[3] who studied the coins after excavations, was of the opinion that Sūrya Mitra belonged to the Śuṅga dynasty It may be noted that in the group of Sūrya Mitra coins, all square in shape, we have one coin of the *Uddehika* variety, i. e. *Udehaki* and *Suyamitasa* in two lines along with the Ujjain symbol etc., on the obverse and elephant along with humped bull on the reverse.[4] The rest 5 coins, all square in shape, substitute the phrase *Sudavapa* in place of *Udehaki* and depict the humped bull as an additional detail[5] The *Sudavapa* coins are finer in fabric as compared to the other round variety though symbolic interconnections with round Mitra pieces from other sites cannot be ruled out[6] It is

1. *Rairh*, pp. 53, 68-9, plate XXVI, 15-16.
2. *Ibid*, p. 80.
3. *JNSI*, III, no. 1, p. 48.
4. *Rairh*. p. 66, plate XXVI, 9.
5. *Ibid*, pp. 66-67. plate XXVI, 10.
6. *JNSI*, XX, no. 2 p. 124.; *JNSI*, III. pp. 47 ff.

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difficult to say whether Sūrya Mitra of Rairh, Mathurā and Kannauj series of coins was an identical ruler. It may be that they were different persons having identical names and that the *Udehika* coin, a single of course, reached Rairh by way of some trade relations. It is also possiblethat the *Sudavapa* coins were minted at Rairh for circulation like the Udehika coins issued in a different locality. *Udehikas* are known from literature as an ancient people, located by Alberuni, near Bazana (Bayana in Bharatpur State), 120 miles from Kannauj.[1]

The other group of coins from Rairh includes a round copper coin of Brahma Mitra; the *Sudavapa* legend is altogether absent on this solitary specimen[2] but we have five square copper coins in *Sudavapa* group for the third ruler Dhruva Mitra[3]

It is, therefore, evident that *Sudavapa* denoted some specific association on the coins of Mitra rulers from Rairh. K. N. Dikshit[4] suggested that, '*Sudavapa* was a title or a family name". But that does not appear to be plausible because it appears after the proper name of the respective rulers, Sūrya Mitra and Dhruva Mitra; it may be regarded as some place name as rightly suggested by K. N. Puri[5] in the appearance of *Vapu* on the aforesaid coins from Rairh itself may lend further support to the name *Sudavapa* as a particular mint town. But Das Gupta has already supported the case for *Vatsaghosha* in relation to *Maru* desert as a mint town on the early coins from the same place. It is, therefore, hardly possible that Rairh was called by two different names i. e. *Sudavapa* and *Vatsaghosha*. This much we may gather from the lead seal from Rairh that it was included in the *Mālava Janapada*[6]. V. S. Agrawala, on the analogy of Pāṇini's *Sūtra* on[7] Kāśikā[8]

1. *BMC. AI*. p. 147, plate XIX, 12.
2. *Rairh*, p. 67, plate XXVI. 11.
3. Ibid. pp. 67-68, plate XXVI, 13-14.
4. *JNSI*, III, no. 1 pp 47-48.
5. *Rairh*, pp. 52-53.
6. IV. 275.
7. *JNSI*, IV, no. 1, pp. 46-47.

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thought that *Sudavapa* and *Udavapa* were identical place names. But Agrawala has not specified the location of *Udavapa* at all and it is, therefore, not plausible to identify *Udavapa* with *Sudavapa* of the Rairh coins with a definitive. The legend *Vapu* on some contemporary coins from Rairh may lead us to think that it was probably some place name of *Mālava* janapada. The whole problem, of course, awaits further corroboration by more finds from Rairh and its vicinity. It may also be pointed out that *Sudavapa*, *Vapu* and *Senāpati* groups of copper coins have been found at Rairh alone and that enhances their importance still further.

Non-tribal coins datable before the Gupta period, have not been reported from other sites of Rajasthan as yet. It was towards the first or second century before the Christian Era that a certain ruler named *Sarvatāta* had built a massive stone enclosure[1] for Saṃkarshaṇa - Vāsudeva at Madhyamikā (i. e. Nagarī) near Chittor. He had already performed an *Aśvamedha*-sacrifice as well. No such coin of this mighty ruler has of course been discovered at Madhyamikā, a famous seat of the *Śibis*. Archaeological excavations here also failed to supply any evidence in support of some currency for Sarvatāta. Under these circumstances it is equally difficult to say whether he was actually ruling at Madhyamikā in Southern Rajasthan.

It may also be pointed out that the above Rairh coins have not been recovered from any regular strata. Their chronological sequence is therefore shrouded, in mystery pending any scientific excavation at the same site. Archaeological spade work at the extensive and nearby site of Nagar (Karkoṭa Nagar) may enable us to know more about the numismatic wealth of that region, so well associated with the Mālavas. The Museum at Amber (near Jaipur) preserves a number of *Kaolin* plaques from Nagar and datable to the pre-Christian era but the utter paucity of any contemporary or earlier local (other than Mālava) coins in that collection from Nagar is very much regretted at the present moment. The entire lot of Rairh coins described above, is available in copper, a fact which has got an important bearing on the

1. *Sarvatātena Asvamedhayājinā Samkarshaṇa Vāsudevābhya Pujā Śilā Prākāro Nārāyaṇavāṭakā;* cf. D. R. Bhandarkar, *Excavations at Nagarī, MASI*, No. 4.

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contemporary poor economy[1] of that locality. On the other hand, conditions appear to have been far better at Rairh during the Mauryan period as the same site yielded one of the largest hoards of silver punch-marked coins in good condition.

1. The same view has been propounded in cass of early Mālava currency from Nagar as well, see, S. K Chakrabortty, A *Study of Ancient Indian Numismatics*, Calcutta, 1931, p 194. We do not know whether the tiny copper coins (of 1.7 grs and 2 inches diameter) from Nagar, have been reported from Rairh as well. Mr. Chakrabortty thought that this particular variety was obtainable at Nagar only but Rairh was not known at that time and hence a close scrutiny of 280 Mālava coins from Rairh and now preserved in the Central Directorate of Archaeology & Museums at Jaipur is equally essential. It will help us in ascertaining the horizon of this early Mālava currency of the second-first century B. C., a date suggested by V. A. Smith and other scholars.

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Typological Study of the Local Coins of Northern India

Bela Lahiri

The term 'Local Coins' is ascribed to a distinct series of monetary issues which, from its types, legends or provenance, can be more or less definitely attributed to a particular locality. These 'Local Coins' can be divided into two categories according to their legends: (1) those bearing names of important cities like Kauśāmbī, Vārāṇasī, etc., and (2) those bearing names of rulers of various local dynasties. Coins with names of tribes are excluded from the scope of our present study.

As to the date of these coins, it may be pointed out that some of the die-struck and inscribed issues of Taxila, bearing the legend *Hirañasame* were imitated by the Greek ruler Agathocles about the second quarter of the second century B. C.[1] Thus, the earliest local inscribed coins may be taken to be somewhat anterior to the advent of the Bactrian Greeks, i. e. about the end of the third or the beginning of the second century B. C. at the latest. Now, coins bearing the names of cities were probably a little earlier than those bearing the names of rulers, since at Ayodhyā and Kauśāmbī the city issues were followed by the dynastic issues. The date of the coins bearing the names of particular cities generally ranges from about the end of the third to the beginning of the first century B. C., while coins with names of rulers were probably issued from about the second half of the second century B. C. For, from the combined evidences of coins and inscriptions of this period it appears that most of the local dynasties to which the issuers of these coins belonged came into existence about that time, i. e. not long before the termination of the rule of Pushyamitra Śuṅga who held a major portion of Northern India under his sway.[2] The issues of the various local dynasties came to a stop with the successful establishment of the Gupta supremacy and the

1. Cf. *PMC*, p 18, Pl. II. 51 and 52; also *BMC, AI*, p. cxxxi.
2. This point has been discussed in detail in the author's forthcoming book *Indigenous States of Northern India (circa 200 B. C. to 300 A. D.)*.

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circulation of the highly developed system of the Gupta currency throughout Northern India in the first half of the fourth century A. D.

The local coins are clearly distinguishable from the earlier punch-marked issues by their mode of manufacture, shape, metal, legends, types, etc. So far as the mode of manufacture is concerned, the symbols on the local coins were impressed *at a time* either by dies or by moulds, as against those on the punch-marked issues, which were struck on the coin-blanks by *separate* punches. The local coins are generally *round*, while the punch-marked pieces are usually *squarish* in shape. As distinguished from the punch-marked coins, a great majority of which is of *silver*, the local coins are almost invariably of *copper*.[1] The local coins generally bear the name of the issuing authority on them and thus help us in attributing them properly, whereas the punch-marked coins are never inscribed. The symbols on local coins play but a minor part, since they are generally associated with some main device like an animal or a deity, while symbols in varying combinations are the main characteristics of the punch-marked pieces.

Another distinctive feature of the local coins is that the coin-type of a particular locality is invariably different from that of another place. Rapson has already pointed out the conservatism of Indian coins by showing that the local types have very often remained unaltered inspite of changes of dynasties and transference of power from one race to another.[2] As it is well-known, punch-marked coins, which have numerous local varieties, are conspicuous by the presence of two almost constantly occurring symbols, viz. the so called 'solar symbol' and the 'sixarmed symbol', recognised by Allan as the emblems of an imperial authority, pre-

1. A few coins of Gomitra of Mathurā (*BMC, AI*, p 172, Nos. 19-25) are, however, of potin, while the coins of Almorā were made of some alloy of silver (see E. J. Rapson, *Indian Coins*, p. 10). A silver coin of Vishṇumitra of Pāñchāla is reported to have come to light (*JNSI*, V, pp. 153-154). But so far no other local ruler is known to have issued any silver coins.

   Of the tribal states, those that were near the Punjab border issued some silver coins, apparently in imitation of the coins of the Indo-Greek rulers.

2. See Rapson, *BMC, Andhra*, p. xi.

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sumably Mauryan.[1] This is, however, not the case with the local coins; for, although there are a few common symbols which occur on more than one local series and which are found in general on most of the Indian coinages, there is no particular symbol which is common to all the local issues and which can be identified as the insignia of an imperial power. Inspite of interconnection of symbols, each local type is distinct from the other.

The importance of typological study in reconstructing history from coins cannot be denied. It has yielded valuable results in the case of the history of the foreign rulers of India, which is solely built up on a study of their coins. The history of the various indigenous states which sprang up in different parts of Northern India after the fall of the Mauryas and before the rise of the Guptas also depends mainly on coins issued by these local rulers. A study of the different local types is of greater importance than their provenance in determining the district of circulation of a coin. For, although the original attribution is mainly based on the authority of Cunningham, whose knowledge of coins and their provenance is still unrivalled, a coin-type once identified as characteristic of a particular locality, helps us to a great extent in determining the district of circulation of a coin of unknown provenance or of a coin coming from a place other than its place of origin.

Moreover, a comparative study of the common types and symbols of a particular locality is the only clue to determining the position and sequence of the innumerable rulers of the various local dynasties, very few of whom are known from sources other than numismatic. As pointed out by Rapson, a study of the coin-types makes it "possible to determine sometimes whether their use was local, dynastic, or personal—that is to say, whether they were intended to denote some particular locality, some particular family of rulers, or some particular ruler".[2] As in the case of the Andhra coins, so also in the case of the local coins, typological study helps us to recognise which symbol is local, which symbol is dynastic, or which one is personal. In this way, we can connect a ruler with a particular locality, dynasty or another ruler of that dynasty.

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1. J. Allan, *BMC, AI*, pp. xxi and lxxi-ii.
2. *BMC, Andhra*, p. clxv.

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By the local coins of Northern India, we denote here those ascribed to Almorā, Ayodhyā, Kanauj, Kauśāmbī, Mathurā, Pāñchāla (Ahichchhatrā) and Vārāṇasī—each place having its characteristic local types. The city-issues of Central India like those of Tripurī, Māhishmatī, Ujjayinī, etc. are not included here.

ALMORÁ

Coins of Almorā are distinguished from all other Indian issues by their style, fabric, metal,[1] size and types. Three rulers, viz. Haridatta, Śivadatta and Śivapālita, and a fourth one whose name has been doubtfully read as Mṛigabhūti, are so far known from coins.[2] The obverse of all these coins bears a circle joined with a curved line (S. 21), a stag before a symbol like a staff-within-railing (S. 38 or S. 39) and the king's name in the margin in bold characters. The coin of Śivapālita bears an additional device, viz. a 'rude male figure', which distinguishes him from other rulers of Almorā. The reverse type of all these coins appears to be an "altar surmounted by a triangle-headed standard with an elaborate *nandipada* on its face" (S 25).

The stag on the Almorā coins is comparable to that seen on the issues of the Kuṇindas and the staff-in-railing symbol (S. 58) before it is similar to that found above the stage on the same issues.[3] This interesting interconnection of symbols between the Almorā and the Kuṇinda coins may suggest some association of the Kuṇinda tribe with the Álmorā region.[4] The so-called staff-within-railing, however, also appears as one of the three characteristic symbols on the Pāñchāla coins (S. 37). The significance of the occurrence of this common symbol on Almorā, Kuṇinda and

1. "They appear to be of some alloy of silver and are heavier than any other Indian coins."—Rapson, *Indian Coins*, p. 10.

2. *BMC, AI*, p. 120, Pl. XIV. 9 (Haridatta); ibid., Pl. XIV. 7 (Śivadatta); ibid., Pl. xiv. 8 (Śivapālita); and ibid, p. lxxxi (Mṛigabhūti ?). The name of the last king "cannot be read with certainty but the consonants appear to be *M-g-bh-t-sa*".

3. For Kuṇinda coins cf. *BMC, AI*, Pl. xxii. 1.

4. Rapson attributes the Almorā coins to a branch of the Kuṇindas, *Indian Coins*, p. 11 and *Cambridge History of India*, Vol. I, p. 529.

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Pāñchāla coins may not be religious, as supposed by Powell-Price.[1] The reverse symbol (S 25), again, bears great resemblance with that occurring on some late Ayodhyā coins (of S 24 and S 24A).

AYODHYA

The inscribed coins of Ayodhyā fall into two distinct classes—one of square cast coins and the other of round die-struck pieces.[2]

Class I

The square cast coins generally bear on the obverse the figure of a bull before a symbol (S 5), not always distinct, and on the reverse a group of several symbols (S 13, S 19, S 26, S 28, S 29 and S 34)—mostly numbering five and in various combinations. Besides these almost common types, however, some rulers also issued some personal types. The kings so far known from coins of this class are Dhanadeva, Mūladeva. Praushṭhadeva, Vāyudeva, Viśākhadeva, Jyeshṭhadatta, Naradatta, and Śivadatta. The bull standing either to the right or to the left appears as the obverse type of the coins of all these rulers excepting only Praushṭhadeva. It is depicted as standing to right on the issues of Mūladeva, Vāyudeva, and Dhanadeva,[3] while it is seen as standing to the left on those of Dhanadeva, Viśākhadeva, Jyeshṭhadatta, Naradatta and Śivadatta.[4] It was apparently Dhanadeva who introduced the change in the direction of the bull from the right to the left, since his coins exhibit the bull both to the right and to the left.

The elephant takes the place of the bull on the coins of Praushṭhadeva,[5] and is also found on some issues of Dhanadeva, Vāyudeva and Śivadatta.[6]

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1. Powell-Price takes all the Almorā symbols as Buddhistic and thinks that there was a group of Indian Buddhist kings ruling at Almorā. Pāñchāla, the country of the Kuṇindas and other places during this period. *JUPHS* IV p. 10.
2. Cf. *BMC, AI*, p. lxxxviii.
3. Ibid., p. 130, Pl. xvi. 11 (Mūladeva); ibid., p. 131, Pl. xvii. 8 (Vāyudeva); ibid , p. 132, Pl. xvi. 17 (Dhanadeva).
4. Ibid., p. 133, Pl. xvii. 1 (Dhanadeva); ibid., p. 132, Pl. xvi. 16 (Viśākhadeva); *JNSI*, VIII, p. 14, Pl. I. 14 (Jyeshthadatta); *BMC, AI*, p. 134, Pl. xliii. 6 (Naradatta); ibid., Pl. xvii. 5 (Śivadatta).
5. pp. lxxxix and 135, Pl. XLIII. 7.
6. *IMC*, p. 149, No. 7 (its attribution to Dhanadeva is however uncertain); *BMC, AI*, p. 130, Pl. xvi. 13 (Vāyudeva); ibid , p. 135, Pl. xliii. 4 (Śivadatta).

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Another device seen on these coins is the figure of Lakshmī, who is depicted as standing on some coins of Dhanadeva, Vāyudeva and Viśākhadeva and as seated on some pieces of Śivadatta.[1] The objects on either side of Lakshmī on the coins of Vāyudeva are uncertain, while on the issues of Dhanadeva they are S 13 and S 26 along with three other symbols, including S 30 and S 33 above. On Viśākhadeva's coins elephants are seen as standing on pedestals on either side of Lakshmī and sprinkling her with water. On the issues of Śivadatta also she is being anointed by elephants on either side, where she is depicted as seated instead of standing.

Class II

The round die-struck coins reveal the names of another eight rulers, viz. Kumudasena, Ajavarman, Mādhavavarman, Áyumitra Devamitra, Saṅghamitra, Satyamitra and Vijayamitra. The obverse type of all these coins is again a bull to the left before a symbol (S 6 on those of Kumudasena, Ajavarman and Mādhavavarman, and S 45 on those of the Mitras). The reverse device is different from that on the square cast coins (Class I). It is 'an elaborate *nandipada* on a framework' (S 24 and S 24A) on the coins of Kumudasena, Ajavarman, Mādhavavarman, Saṅghamitra and Vijayamitra,[2] while on some other pieces of Vijayamitra and on those of Áyumitra, Devamitra and Satyamitra it is a bird (a cock or a haṁsa or a peacock) and 'a palm-tree on a wavy line.[3] Evidently the change in the reverse type was made by Vijayamitra, who struck both the *nandipada* and the 'bird-and-the-palm-tree' varieties.

1. For Dhanadeva *BMC, AI*, p. 132, Pl. xvi. 17 (rev.), for Vāyudeva ibid. p 131, Pl. xvii. 8 (rev.), for Viśākhadeva ibid, p. 131, Pl. xvi, 14 (obv.), and for Śivadatta ibid, p. 133, Pl. xliii. 4.
2. *BMC, AI*, p. 137, Pl. xvii. 17 (Kumudasena); *IMC*, p. 150, No. 6 (Ajavarman); *Journ, As. Soc. Beng.* 1880, p. 138, Pl. xvi. 5 (Mādhavavarman); *BMC, AI*. p. 138, Pl. xvii 21, Saṅghamitra; ibid, p. 139, Pl. xviii. 3 and 5 (obv. and rev. respectively of Vijayamitra)
3. *BMC, AI*, p. 138, pl. xvii. 22 (Vijayamitra); *IMC*, p. 150, No 17 Pl. xix. 17 (Ayumitra). We prefer Smith's reading to Allan's reading, viz, Aryamitra (*BMC, AI*, p. 137, Pl. xvii. 18); *IMC*, p. 151, No. 28 Pl. xix. 18 (Devamitra); *BMC, AI*, p. 135, Pl. xvii, 11 (Satyamitra). The bird concerned is identified as a cock by Smith (*IMC*, p. 151, Nos. 29 and 31-32), as a *hamsa* by Allan (*BMC, AI*, p. lxxxix), and as a peacock by Bajpai (*JNSI*, XXV, p. 109).

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Thus, on a comparative study of the coin types of both the classes it is found that the figure of the bull is common to both the series, so that we can recognise it as the characteristic local device of the Ayodhyā rulers, irrespective of the families to which they belonged. In addition to the differences in the reverse types with the change of dynasties the symbols before the bull also changes and appears to be the special emblem of each dynasty—S 5 in the case of the rulers issuing square cast coins, S 6 in the case of the three rulers, viz. Kumudasena, Ajavarman and Mādhavavarman, and S 45 in the case of the kings bearing mitra-ending names. The choice of other types was mainly personal and the use of a common type by two or more rulers might signify interconnection by proximity of time or otherwise.

KANAUJ

The coins so far associated with Kanauj bear the names of three rulers—Brahmamitra, Sūryamitra and Vishṇudeva.[1] Of them only the coin of Vishṇudeva is known to have come from Kanauj proper, while those of Brahmamitra and Sūryamitra are ascribed to this locality because of their general similarity with the coin of Vishṇudeva.[2] An unassigned coin in the cabinet of the Indian Museum of exactly the same type as those of Brahmamitra and Sūryamitra bear the name of one Gomitra,[3] who should consequently be associated with them. A fifth ruler Suṅgavarman, even though his coin is reported to have come from Kauśāmbī, should be ascribed to Kanauj, since his types are significantly

1. *BMC, AI*, p. 147, PL. XIX. 11 (Brahmamitra),, ibid. PL. XIX. 12 (Sūryamitra), and ibid., Pl. XIX. 18 (Vishṇudeva).

2. ibid., pp. xciii, civ and *JRAS*, 1898, p. 97.

3. *IMC*, p. 205, No. 2 Pl. XXIII. 6. The coin is evidently an overstruck one. The reverse still bears faint traces of the original overse device along with the name of the issuer, *Gomi (ta)*, while the obverse is counterstruck by the three usual symbols found on the coins of Brahmamitra and Sūryamitra (S 12, S 6, S 27, S 8) with the name of the overstriker, which is doubtfully read by me as *Gomita*. Whatever might be his name, he appears to have belonged to the Brahmamitra-Sūryamitra group and cannot be the same person as the original issuer of the coin.

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identical with those of Vishṇudeva.[1] The coins of Brahmamitra, Gomitra and Sūryamitra form one group, while those of Vishṇudeva and Śuṅgavarman form another group. The obverse of the Mitra coins bears three symbols, viz. the triangle-headed standard (S 3), tree-in-railing (S 12), and Ujjain symbol (S 27), arranged in different order on coins of different kings. The reverse symbol is the nandipada-standard-in-railing (S 49) on Brahmamitra's coin and some indistinct symbol in railing on Gomitra's issues, while it is illegible on the coin of Sūryamitra.

The obverse of the coins of both Śuṅgavarman and Vishṇudeva also exhibits three symbols, of which only one, viz. tree-in-railing (S 12) is common to the coins of the Mitra group of rulers. Of the two other symbols, one is a hare-on-moon (S 9) and the other is a caduceus-like sign (S 23). The reverse of the coins of both the rulers bears a horse before a *yūpa*, either to left (Vishṇudeva) or to right (Śuṅgavarman). It thus appears that the tree symbol (S 12) which is found on the coins of both the groups of rulers was the characteristic symbol of the locality, the others being the dynastic emblems.

KAUŚĀMBI

The coinage ascribable to the early rulers of Kauśāmbī or the kingdom of Vatsa fall mainly into two classes—an earlier one of round cast pieces and a later one of die-struck coins.[2] Besides the coins of these two main classes, i. e. Class I and Class II, there are other late Kauśāmbī coins which may be grouped into two more minor classes—Class III and Class IV. Thus Class III of Kauśāmbī

1. For the coin of Śuṅgavarman see *JNSI*, XXVII, pp. 188-89, Pl. III. 5. It is very difficult to follow Bajpai's self-contradictory statements. If, according to him, there was no separate dynasty at Kanauj and if the Mitras as well as Śuṅgavarman and Vishṇudeva were all rulers of Kauśāmbī, how is it possible that Kanauj was included within Mathurā or Pāñchāla instead of Kausāmbī ? He himself admits that there is no evidence of the extension of the sway of the Kausāmbī rulers over Kanauj. It may, moreover, be pointed out that inspite of some common symbols, the Kanauj coins are typologically entirely different from the Kausāmbī series of coins, and that none of the names of the Kanauj rulers occurs on the Kauśāmbī issues.

2. *BMC, AI*, p. xciv.

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coins comprises the issues of Dhanadeva and of some other rulers who imitated his types, while the coins of Class IV consist of the issues of the Magha kings.

Class I

Amongst the early cast pieces, the majority of which are uninscribed, there are some inscribed ones bearing the name of the city of Kauśāmbī[1] and of two rulers, Sudeva and Bahasatimita.[2] The obverse of these coins bears the figure of an elephant on pedestal along with several symbols including the triangle-headed standard (S 3) and the Ujjain symbol (S 27). Of the reverse symbols, the tree-in-railing is common to all, others varying on different coins.

Class II

From the struck coins of a somewhat later period we get the names of Agnimitra, Aśvaghosha, Bṛihaspatimitra II, Jyeshṭhamitra, and Parvata. Numerous other names have, however, come to light from recent numismatic discoveries. They are : Agarāja, Iśvaramitra, Jyeshṭhabhūti, Prajāpatimitra, Praushṭhamitra, Priyamitra, Rādhamitra, Rājamitra, Rajanīmitra, Rāmamitra, Sarpamitra, Satamitra, Varaghosha or Śivaghosha, Śūramitra and Varuṇamitra. "The characteristic types of Kauśāmbī which prevail throughout the series are a bull and a tree-in-railing."[3] The 'bull' occurs on the coins of almost all the rulers except Iśvaramitra Jyesṭhabhuti, Priyamitra and Rāmamitra[4]. On the coins of Praushṭhamitra and Śivaghosha the bull is seen turned to the left,[5] while on those of Agarāja, Agnimitra, Bṛihaspatimitra II,

1. *BMC, AI*, pp. xcviii-xcvix and JNSI, XI, pp. 9-10. Pl. III. 1; ibid., XXIV, p. 140, Pl. II. 0-10; ibid., XXV, p. 20, Pl. I. 2.
2. *BMC, AI*, p, 150, Pl. XX. 11 (Sudeva); ibid., Pl, XX. 1 (Bahasatimita).
3. Ibid., p. xciv.
4. The coins of Iśvaramitra *(JNSI*, XV, p. 44, Pl. II. 6) and Priyamitra (Ibid., XXII, p. 181, Pl. VI. 19) show the legend on the obverse and the tree-in-railing on the reverse; that of Rāmamitra (Ibid., XXII, p. 181, Pl. VI. 18) has the tree-in-railing on the obverse is blank. Jyeshthabhūti's coin (Ibid., Pl. VI. 20) has a male figure on the obverse and tree on the reverse
5. *JNSI*, IV, p. 133, Pl. XII. 1 (Praushthamitra); ibid., p. 2, Pl. I. 1 (Vavaghosha or Śivaghosha).

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Jyeshṭhamitra the bull is seen as turned both to the left[1] and to the right.[2] The coins of the rest of the rulers exhibit only the bull-to-right variety.[3]

The type of 'horse' is seen on the coins of Bahasatimita I of cast coins as well as on some varieties of the struck coins of Jyeṣṭhamitra.[4] The type of 'lion' occurs on some pieces of Aśvaghosha, Rādhamitra, and Varuṇamitra,[5] while a 'rude male figure' appears on those of Jyeshṭhabhūti and Jyeshṭhamitra.[6]

Of the symbols, the most important one is the tree-in-railing (S 11), which is found on the coins of all the rulers except Rādhamitra. Next in importance is the so-called Ujjain symbol (S 27) which appears on the issues of Agarāja, Agnimitra, Bṛihaspatimitra, Jyeṣṭhamitra, Prajāpatimitra, Praushṭhamitra, Rajanīmitra, Sarpamitra, Satyamitra, Śivaghosha, Śūramitra and Varuṇamitra.

Other minor symbols found on Kauśāmbī coins are a *'nandipada* above three-arched hill within railing' (S 2), the triangle-headed standard (S 3), a 'wavy line between two straight lines (S 4), the taurine, (S 35), the *svastika* (S 30 or 31). the *nandipada* (S 32) and the three-arched hill (S 1). Of these, the symbols of the *'nandipada* above three-arched hill within railing' (S 2) is found before the bull on the coins of Agnimitra, Bṛihaspatimitra II, Praushṭhamitra, Rādhamitra, Śūramitra, and

1. *JNSI*, IV p. 15, Pl. I. 17 (Agarāja), *BMC, AI*, p. 158, Pl. XXVIII. 15 (Agnimitra), ibid., p. 152, No. 24 (Bṛihaspatimitra II) ibid; p. 154, Pl. XX, 9 (Jyeshthamitra).

2. *JNSI*, XIII, p. 198, Pl. VIII. 21 (Agarāja), *BMC, AI*, p. 153, Pl. XX. 5 (Agnimitra), ibid., p. 151, Pl. XX 2 (Bṛihaspatimitra II), and *JNSI*, IV, p. 144, Pl. XII, 23 (Jyeshthamitra).

3. For the rest of the rulers see *BMC, AI*, p. 150, Pl. XX. 6 (Asvaghosha); ibid., Pl. XX. 10 (Parvata); *JNSI*, IV, p. 7, Pl. I. 6 (Prajāpatimitra); ibid., p. 4, Pl. I. 2 (Rādhamitra); ibid., p. 8, Pl. I. 7, Rājamitra ; ibid., p. 10, Pl. I, 10, Rajanīmitra; ibid., p. 135, Pl. XII. 7, Sarpamitra; ibid., p. 134, Pl. XII. 6, Satamitra; ibid., p. 5, Pl I. 8, Suramitra; and ibid., p, 6, Pl. I. 5. Varuṇamitra .

4. BMC, AI, p. 150, Pl. XX. 1, Bahasatimita 1; and *JNSI*, XI, p. 11, Pl. III. 3, Jyeshthamitra.

5. Ibid., Vol. IV, p. 14, Pl. I. 16. Asvaghosha; ibid., p. 141, Pl. XXII 15, Rādhamitra; and ibid., VIII, p. p. 17, Pl. IB–2, Varuṇamitra.

6 *JNSI*, XXII, P. 131, Pl. VI. 20, Jyeṣthabhūti; ibid., XI, p. 11, Pl. III. 8, Jyeshthamitra.

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probably also on those of Agarāja, Aśvaghosha, Prajāpatimitra. The triangle-headed standard (S 3) occurs on those of Agnimitra, Bṛihaspatimitra II, Jyeshṭhamitra, Rājamitra and Varuṇamitra. The coins of Agnimitra, Bṛihaspatimitra II, Parvata, Praushṭhamitra, Śūramitra and Varuṇamitra bear the symbol of a 'wavy line between two straight lines' (S 4). The taurine occurs on the issues of Agarāja, Jyeshṭhamitra, Prajāpatimitra, Praushṭhamitra and Śivaghosha, while the *svastika* is seen on those of Jyeshṭhamitra and Śivaghosha. The *nandipada* symbol is countermarked on some coins of Agnimitra, Bṛihaspatimitra II, Jyeshṭhamitra, Praushṭhamitra and Rāmamitra,[1] while the three-arched hill (S 1) is found on those of Jyeshṭhamitra and Parvata.

Class III

The type of Dhanadeva and its imitations by some rulers whose names are doubtfully read as Nava, Mūlahasta, Vishṇuśrī, etc. are a class by themselves and are distinct from the early struck coins of Kauśāmbī.[2] The tree device, however, also appears invariably on all these pieces, although the form of the tree is a bit different from that on the earlier issues. The 'bull' also finds its place on the coins of Dhanadeva, Nava and Mūlahasta,[3] while the 'elephant' (seen on the early cast coins) appears on those of Nava and Vishṇuśrī.[4] The three-arched hill (S 1, also found on the earlier struck coins) is also seen on those of Dhanadeva and Vishṇuśrī. The trident, a new symbol, occurs on the issues of Dhanadeva and Mūlahasta.

It thus appears that the 'tree symbol' which invariably occurs on all classes of Kauśāmbī coins, irrespective of dynasties, was the

1. For the countermarked *nandipada* see *BMC, AI*, p. 153, Pl. XX. 5, Agnimitra; , ibid., p. 152, Pl. XXi. 18, Bṛihaspatimitra II; *JNSI*, IV, P. 144, Pl. XII. 23, Jyeshthamitra; and ibid., VIII, P. 11, Pl. I 7, Praushthamitra; The *nandipada* appearing on Rāmamitra's coin, *JNSI*, XXII, p. 131, Pl. VI. 18, is not counterstruck, but is an original device.

2. *BMC, AI*, p. xcvii.

3. Ibid., p. 153, Pl. XX. 13, Dhanadeva; ibid., p. 154, Pl. XXI. 4, Nava; and ibid , p 156, Pl. XXI. 9, Mūlahasta.

4. *IMC*, p. 206, No. 4 Pl. XXIII. 16, Nava; and *BMC. AI*, p. 157, No. 65, Vishṇusrī;

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local emblem of Kauśāmbī and is also to be found on the later coinage of the Maghas. The bull was the next common device, but it is absent from the early inscribed cast pieces as well as from some early struck coins of several rulers. The use of other symbols depended on personal choice.

Class IV

The Magha coins are of a different class—but they are connected with the earlier series by their types. The form of the tree as it appears on the Magha coins (S 15) is similar to that on the issues of the kings of the Dhanadeva group. The tree is to be found on the coins of every Magha ruler. The bull device also occurs on those of almost all the Maghas[1] excepting a few otherwise unknown rulers, viz. Satamagha, Puramagha, and Jagamagha (?).[2] The elephant, which forms the main type of the early cast inscribed pieces of Kauśāmbī and appears on the issues of some rulers of the Dhanadeva group, is also found on those of some Magha kings, viz. Śivamagha and Puramagha.[3]

Of the symbols, a 'ladder-like symbol' (S 51) is characteristic of most of the Magha coins. It is seen on the coins of Śivamagha, Bhadramagha, Vaiśravaṇa, Bhīmavarman and Jayamagha.[4] The three-arched hill symbol (S 1), found on the issues of a few earlier rulers is also very common on the Magha coins, and appears on those of Śivamagha, Praushṭhaśrī, Bhadramagha, Vaiśravaṇa, Bhīmavarman, Vijayamagha and Jagamagha (?). The *nandipada* is found on a few pieces of Bhīmasena and Vaiśravaṇa, while a wavy line makes its appearance on those of Bhadramagha, Vaiśravaṇa and Vijayamagha. A new symbol, that of a 'cross within a circle' (S 52) is seen on the coins of Vaiśravaṇa and

1. *JNSI*, VIII, p. 15, Pl. IB–1, Bhīmasena; *BMC, AI*, pl. 57. Pl. XXI. 13, Śivamagha; *JNSI*. IV, p. 136, Pl. XII. 1, Praushthasrī; BMC, AI, p. 158. Pl. XXI. 14, Bhadramagha; *JNSI*, II, p. 106, Pl. IX. 6, Vaisravaṇa; ibid., p. 108, Pl. IX. 9, Bhīmavarman; and ibid., IX. p. 11, Pl. 1. 12, Vijayamagha,

2. For their coins see *JNSI*, IV. p. 10, Pl. 1. 11 (Satamagha), Ibid, VIII. p. 8, Pl. I. 2, Puramagha; and Ibid p. 9, Pl I. 4, Jagamagha ?

3. *BMC, AI* p. 156, Pl. XXI. 12, Śivamagha; and *JNSI*, VIII, p. 8. Pl. I. 3, Puramagha.

4. For Jayamagha see *JNSI*, II, p. 12. Pl. III. 4.

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Bhīmavarman, while a 'seven-spoked wheel within a dotted circle' occurs on that of Jagamagha (?).

Another coin with the legend *Śrī Rudra* on the obverse and Śiva with his bull on the reverse is ascribed to Kauśāmbī on the ground of provenance.[1] But since none of the familiar symbols found on the Kauśāmbī coins, specially the tree symbol, which invariably occurs on the coins of all the known Kauiāmbī rulers, is to be seen on this coin, we have doubts if this piece was actually issued by any ruler of Kauśāmbī.

MATHURÁ

The coinage of Mathurā falls into two main classes—one belonging to the early Hindu rulers and the other to the Śaka satraps. These two groups are, however, interlinked by types. Amongst the Hindu rulers of Mathurā, again, two different families, viz. the Mitras and Dattas, may be distinguished. They are twelve in number.[2] Brahmamitra, Dṛidhamitra, Gomitra, Sūryamitra, Vishṇumitra, Balabhūti, Bhavadatta, Kāmadatta, Purushadatta, Rāmadatta, Śeshadatta and Uttamadatta.[3]

Class I

The coin-type of these Hindu rulers are singularly uniform. The obverse shows the figure of Lakshmī, holding a lotus in her uplifted right hand and being surrounded by several symbols (S 46, S 28, S 43, S 10), of which the Ujjain symbol (S 28) is found on those of the Mitras and is replaced by another (S 44) on those of the Dattas. The reverse usually depicts 'three elephants

1. *JNSI*, XI, p. 13, Pl. III. 6.

2. The coin of a new ruler of Mathurā, Satamitra, has been recently published; *JNSI* XXVIII, p. 42. Pl. II. 7. The name *Satamita* can only be Satamitra in Sanskrit, not Satyamitra, as given by Bajpai.

3. BMC, AI, p. 173, Pl. XXV. 12, Brhmamitra; ibid,, p. 174, Pl. XLIII. 16, Dṛidhamitra; Ibid., p. 170, Pl. XXV. 1, Gomitra; Ibid,, p. 174, Pl. XXV. 17, Sūryamitra; ibid., p. 175, Pl. XXV. 15, Bishṇumitra; ibid., p. 178, Pl. XXV. 22, Balabhūti; IMC, p. 198, No. 1, Bhavadatta ; BMC, AI, p. 182, Pl. XXIV. 18, Kāmadatta; ibid.. p. 178. Pl. XXIV. 1, Purushadatta ; ibid., p. 179, Pl. XXIV. 5, Rāmadatta; ibid., p. 174, Pl. XLIII. 18, Śeshadatta ; ibid,. p. 177, Pl. XXIV. 15, Uttamadatta.

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with riders', with the only exception of the coins of Bhavadatta and Uttamadatta, which show only one elephant (without rider). The type of 'three elephants with riders' is crudely represented and degenerates until it is almost irrecognisable. Besides these common types, some coins of Gomitra also depicts a bull to right.[1]

Class II

As to the coins of the Śaka satraps, mention may be made of those of Rājuvula, Śoḍāsa, Hagāna, Hagāmāsha, Śivadatta and Śivaghosha. We do not take into account the Greek-type issues of Rājuvula, which were imitated from the 'Athena-thundering' type of Strato II. Only the Mathurā-type coins of Rājuvula are considered here. Of the issues of the Śaka satraps, the coins of Rājuvula and Śoḍāsa form one group, while those of Hagāna, Hagāmāsha, Śivadatta and Śivaghosha form another. The characteristic local type of Mathurā, i. e. 'Lakshmī standing' appears on the obverse of both the groups, though the symbols surrounding her are different on the issues of the two groups of the Śaka satraps. The reverse of the coins of Rājuvula and Śoḍāsa depicts the device of Lakshmī being anointed by an elephant on either side,'[2] while that of Hagāna, Hagāmāsha, Śivadatta and Śivaghosha replaces it by the figure of a horse.[3]

Of the symbols found on Mathurā coins, the most constant one is a 'tree-like symbol' (S 46), which occurs not only on the issues of the Hindu rulers (probably excepting some pieces of Balabhūti and Bhavadatta) but also on those of all the Śaka satraps besides Rājuvula who replaces it by another symbol (S 18). This symbol (S 46), therefore, appears to have some local significance and is invariably associated with the figure of Lakshmī.

1. For the progressive degeneration of the 'Three-elephant' type, cf. BMC, AI, Pl. XLIV. 8-12. For Gomitra's Bull-type coin, see ibid, p. 172, Pl, XXV. 9.

2. BMC, AI, p. 187. Pl. XXVI. 12, Rājuvula; and ibid., p. 190, Pl. XXVI. 16, Śodāsa.

3. Ibid., p. 184, Pl. XXVI. 6, Hagāna and Hagāmāsha; ibid., p. 183, Pl. XXVI. 1, Hagāmāsha; ibid., Pl. XXV. 26, Śivadatta; and ibid., p. cxii, Śivaghosha.

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The 'Ujjain symbol' appears to be the dynastic emblem of the Mitras, since it is not found on any coin other than those of the Mitras; and it is to be noted that the Dattas used as their dyanstic emblem a *Śa*-like symbol (S 44) instead of the Ujjain symbol of the Mitras. In the same way, (S 44) which was apparently introduced by Hagāna became the characteristic symbol of himself and the three succeeding Śaka satraps, viz. Hagāmāsha, Śivadatta and Śivaghosha.

Another symbol generally associated with Lakshmī is S 43 and is found on the coins of Brahmamitra, Gomitra, Sūryamitra, Kāmadatta, Purushadatta and Rāmadatta. Two additional symbols, a 'star' (S 42) and a 'miniature bull' (S 8) are found associated with Lakshmī on the coins of Kāmadatta and some pieces of Rāmadatta.[1] Lakshmī is sometimes depicted as standing over a 'river with fishes' (S 10), as on the coins of Gomitra, Kāmadatta, Rāmadatta and Uttamadatta, or on a 'wavy line' (S 19), as on a few pieces of Rāmadatta. The wavy line, however, appears vertically (S 20) on the right side of Lakshmī on the issues of Rājuvula, Śoḍāsa, Hagāmāsha and Śivadatta. A coin of Uttamadatta, bears the countermark of a peculiar symbol (S 50)[2] comparable to that found on two bronze pieces with the name of Mahādeva and usually attributed to the Audumbaras.[3]

Some coins with the name of Gomitra bear four symbols (S 35, S 16, S 14 and S 22),[4] not found on the issues of any other ruler of Mathurā. Neither the figure of Lakshmī nor the figures of 'three elephants' make their appearance on these coins. Because of these typological differences this Gomitra is differentiated from Gomitra of the regular Mathurā type coins. Some other pieces bearing again the name of Gomitra and a 'rude figure' on the obverse and the 'tree-in-railing' on the reverse are typologically connected with similar other issues bearing the name of Balabhūti.[5] Since none of these coins exhibits the regular Mathurā

1. BMC, AI, p. 182, Pl. XXIV. 18, Kāmadatta; and ibid., p. 181, Pl. XXIV. 10, Rāmadatta.
2. Ibid., p. 177, Pl. XXIV. 17.
3. JRAS, 1900, p. 112, Fig. 12.
4. BMC, AI. p. 169. Pl. XXIV. 21.
5. Ibid., Pl. XXV. 3, Gomitra; and ibid., p. 178, Pl. XLIII. 19, Balabhūti.

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types, Allan suggests that both these rulers, viz. Gomitra and Balabhūti, were different from their namesakes known from the regular Mathurā type coins.[1] We may, however, note that the 'tree symbol' also appears on some rare potin pieces of Gomitra (of the regular Mathurā series) and on the coins of the Śaka satrap Hagāmāsha.[2]

Some post-Kushāṇa coins with the names of Śaśachaṇḍāta and Vīrasena are attributed to Mathurā, probably on the consideration of their provenance.[3] Although they are not of the regular Mathurā series, the devices found on these coins are also common to Mathurā. The coins of Śaśachaṇḍāta bears the legend on the obverse, and the figure of 'elephant', familiar on some Mathurā coins, on the reverse.[4] One of the coin-types of Vīrasena has a bull,[5] also found on some pieces of Gomitra. Another type of Vīrasena bears the rude standing figure of Lakshmī (its representation being different from that on the regular Mathurā coins) and that of a tree in railing (found on some Mathurā pieces) along with the *nandipada* symbol on either side on the reverse.[6]

PAṄCHÁLA

The coins attributed to Pāñchāla "forms one of the longest and the most uniform series of ancient Indian coins."[7] They are characterised by the presence, on the obverse, of three constant symbols (S 37, S 43, S 36) with the king's name below—all within a square incuse. The reverses of the Pāñchāla coins are more remarkable and "are of special interest to the students of Hindu iconography, as we have nothing similar elsewhere of so early a date."[8] The reverse generally depicts the figure of a deity (or sometimes its attributes), whose name forms as a rule a component of the issuer's name. It is significant that the deities (or

1. BMC, AI, p. cix,
2. Ibid., p. 172, Pl. XXV. 9, Gomitra; and JNSI. VIII, p. 33, Pl. IIC. 5, Hagāmāsha.
3. Ibid., pp. cliv and clv.
4. Ibid., p. 280, Pl. XLV. 13.
5. IMC, p. 197, No. 1 Pl. XXII. 14 and No. 2.
6. BMC, AI, p. 280, Pl. XLV. 15.
7. Ibid., p. cxvi.
8. Ibid., p. cxvii.

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their emblems) represented on the Pāñchāla coins are all Brahmanical. The rulers so far known from the Pāñchāla series of coins are Agnimitra,[1] Anamitra (?),[2] Bhadraghosha,[3] Bhānumitra,[4] Bhūmimitra,[5] Bṛihaspatimitra,[6] Dāmagupta,[7] Dhruvamitra,[8] Indramitra,[9] Jayagupta,[10] Jayamitra,[11] Phālgunīmitra[12] Prajāpatimitra,[13] Rudraghosha,[14] Rudragupta,[15] Śivanandī,[16] Sūryamitra,[17] Śrīnandī,[18] Vaṅgapāla,[19] Varuṇmitra,[20] Vasusena,[21] Vishṇumitra,[22] Yajñapāla[23] and Yugasena[24].

The three characteristic Pāñchāla symbols are found on the obverse of the monetary issues almost all the rulers with the exception of only a few. The first one (S 37) is absent from those of Anamitra and Śivanandī.[25] The second one (S 43) does not

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1. BMC, AI p. 200, Pl. XXVIII. 8.
2. JNSI, XXVIII, p. 43, Pl. II. 8. Recently discovered coin has been attributed to a new ruler named Aśvamitra, ibid., XXIV, p. 12, Pl. I, 6. But the plate is too indistinct to decipher anything from it.
3. BMC, AI, p. 197, Pl. XXVIII. 1.
4. Ibid., p. 195, Pl. XXVII. 16.
5. Ibid., p. 198, Pl. XXVIII. 4.
6. IMC, p. 185, Bṛihaspatimitra's name is mentioned, but his coin-type is not described.
7. JNSI, XV, p. 43. Pl. II. 7; also ibid., XXIV. p. 14, n. 2.
8. BMC, AI, p. 199. Pl. XXVII. 5.
9. Ibid., p. 203, Pl. XXIX. 2.
10. Ibid., p. 202, Pl. XXVII. 3.
11. Ibid., p, 208, Pl. XXVIII. 17.
12. Ibid., p. 194, Pl. XXVII. 11.
13. JNSI, III, p, 80, Pl. figs. 1, 2.
14. Ibid., XXIV, p. 9, Pl. I. 1.
15. BMC, AI, p. 192, Pl. XXVII. 1.
16. JNSI, XV, p. 42, Pl. II. 3,
17. BMC, AI, p. 193, Pl. XXVII. 8.
18. JNSI, XXIV, P. 22. Pl. II. 4.
19. Ibid., IV, p. 19. Pl I. I. 20; and ibid., XXIV. p. 10, Pl. I. 2. For the attribution of the coin of Viśvapāla, BMC, AI, p. 192. Pl. XXVII. 4; for Vaṅgapāla see JNSI, XXIV. p. 12, n. 2.
20. JNSI, V. p. 17, Pl. II. B; ibid., XXV. p. 243, Pl. 1. 7-7a.
21. Ibid., II. p. 115, Pl. XA. 6.
22. BMC, AI. p. 202, Pl. XXIX. 6.
23. JNSI, IV, p. 17, Pl. I. 18.
24. Ibid., V. p. 19. Pl. II. 6; and ibid,, XXIV, p. 11, Pl. I. 5.
25. On Śrīnandī's coin, however, it appears on the reverse, not on the obverse, as usual.

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appear on those of Anamitra, Śivanandī, Śrīnandī and Prajāpatimitra, while the third one (S 36) is not found on those of Anamitra, Śivanandī and Śrīnandī. A new symbol (S 47) takes the place of the first two symbols on some pieces of Agnimitra and Indramitra. A similar symbol occurs on the obverse of the newly discovered piece of Anamitra.

Some counterstriking devices are also found on the obverse of the Pāñchāla coins. A 'lion' is countermarked on some coins of Agnimitra,[1] while a 'female figure' (obliterating the original symbols) is seen on some issues of Agnimitra, Bhānumitra and Sūryamitra.[2]

Of the reverse symbols S 16 occurs on the coins of Bhadraghosha, Phālgunīmitra, Vaṅgapāla, a restruck piece of with the names of Dāmagupta and Vaṅgapāla and a small coin of Dāmagupta.[3] A similar symbol, like Brāhmī *ya* appears on the only known coins of Anamitra. A star (S 42) is associated with the female deity depicted on the issues of Bhadraghosha and Phālgunīmitra. In addition to the star, a variety of the *svastika* (S 31) is also found on those of Bhadraghosha. The taurine symbol (S 35) reverted occurs on some pieces of Bhānumitra. The solar emblem on the issues of Sūryamitra is placed on a two-footed triangle-headed symbol (S 48).

Of the reverse devices, deities are represented on the coins of nine (out of twenty-three) known rulers, viz. Agnimitra, Bhadraghosha, Bhūmimitra, Indramitra, Jayagupta, Jayamitra, Phālgunīmitra, Prajāpatimitra and Vishṇumitra. Of them, a 'female figure standing on lotus' appears on the issues of Bhadraghosha and Phālgunīmitra. The figure on Bhadraghosha's coins is very indistinct, but it is identified, in allusion to the king's name, with the goddess Bhadrā, the consort of Kubera.[4] The goddess on Phālgunīmitra's coin is taken to be the personification of the

1. BMC, AI, p. 201, Pl. Pl. XLVI. 15.
2. Ibid., Pl. XLVI. 16, Agnimitra; IMC, p.817. No. 2 Pl. VXII. 3, Bhānumitra; and JASB, 1880, p. 87. Pl. VII. 6 A, Sūryamitra.
3. JNSI, XXIV, p. 10. Pl. 1. 2-4a Vaṅgapāla; ibid., II, p. 116, Pl. XA. 5 Vaṅgapāla and Dāmagupta; and ibid,. XXIV, p. 14, n. 2, Dāmagupta.
4. BMC, AI, p. cxvii and JNSI, III, p. 82.

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nakshatra Phālgunī, although the figure bears no similarity with the description of Pūrvaphālguni and Uttaraphālgunī, as given by Hemadri.[1] She is represented as holding a lotus bud in her right hand and her hair is shown in five flames. A star (S 42) and S 16 are associated with the goddess on the issues of both Bhadraghosha and Phālgunīmitra. A *svastika* (S 31) is moreover found on Bhadraghosha's coin.

A 'male deity standing on a platform between pillars' is seen on the coins of Agnimitra and Bhūmimitra. The representation of the deity on the issues of both the rulers is very similar, although the deity on Agnimitra's coin is identified with Agni and that on Bhūmimitra's coin with Bhūmi, in allusion to the respective king's names.[2] The only difference is that while the hair of Agni is represented by five flames, that of Bhūmi is indicated by five snakes; moreover, Bhūmi also holds a snake in her hands. Mm. Bazin Foucher, however, finds in the deity on Agnimitra's coins "the representation of Ádināga, the presiding deity of Ahichchhatrā,"[3] while Allan shows that the deity on Bhūmimitra's coins being male should not be identified with the earth-goddess Bhūmi, but probably with "the king of the Nāgas representing the earth."[4] On some small pieces of Agnimitra the deity is depicted as standing on lotus instead of a platform.[5]

There is a marked similarity in the representation of the deities standing facing on a pedestal on the coins of Indramitra and Vishṇumitra, although they are to be identified with Indra and Vishṇu respectively, with reference to the king's names. Jayamitra's coins also depict a similar 'deity on a platform with a pillar on either side', the one to the right being crowned by a spearhead and the other to the left by two crossbars. Indra on Indramitra's issues is crudely represented and there is an uncertain object in his right hand. Both Cunningham and Coomaraswamy describe Vishṇu on Vishṇumitra's coins as having four arms,[6] which,

1. BMC, AI, p. cxviii and *Development of Hindu Iconography* p. 187.
2. Ibid pp. cxvii-cxviii.
3. *Development of Hindu Iconography* p. 147.
4. Cunningham, *CAI*, p. 83, and Allan, BMC, AI. p. cxviii.
5. BMC, AI, p. 201, Pl. XXVIII. 11.
6. Cunningham, *CAI*, p. 84; and Coomaraswamy, *Eastern Art* (1928), p. 35.

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however, come from the elbows and not from the shoulders[1]—a feature not unknown in ancient Indian sculptures. The round object held by the rim in the deity's upper left hand is recognised as *chakra*, but that on the right is not distinct.

The same deities Indra and Vishṇu sometimes depicted as standing within a domed shrine on the coins of Indramitra and Vishṇumitra respectively.[2] Similar deities under archway are also found on the issues of Jayagupta and Prajāpatimitra. Although the representation is very crude and nothing can be made out of it, the figure on Prajāpatimitra's pieces is taken to signify god Prajāpati on the analogy of other Pāñchāla coins.[3]

On the coins of five other rulers, however, we find the attributes of the deities, or their symbolic representations, instead of the anthropomorphic representation of the deities themselves. Thus the coins of Dhruvamitra, Rudragupta and Yajñapāla do not bear the deity but an uncertain object between two pillars within railing. The central object on the issues of Dhruvamitra and Rudragupta sometimes appears to be the trident, sometimes a battle-axe, and it is interesting to note that both the trident and the battle-axe are attributes of Rudra-Śiva, also known as Dhruva. It is thus clear that this central object (trident or battle-axe) alludes to the name of Rudragupta or Dhruvamitra. The device on Yajñapāla's coins is not distinct, although it has been suggested that it is a sacrificial altar, flame, sacrificer and *yūpa*', indicating the performance of a sacrifice.[4]

The sun-god is represented on the coins of Bhānumitra and Sūryamitra by a globe or a rayed disc. On those of Bhānumitra the solar emblem (instead of the sun-god himself) stands only on a railed pedestal between two pillars, while on Suryamitra's issues it stands over a 'two-footed triangle-headed symbol' (S 48) between two pillars within railing. The latter symbol (S 48) is

1. For different views about four arms of Vishṇu, see Allan, BMC, AI, p. cxix and J. N. Banerjea, op. cit. p. 130.
2. BMC, AI, p. 204, Pl. XXIX. 3, Indramitra; and JNSI, III, p. 81, Vishṇumitra (?). The name of the issuer of this coin is given as Viśvāmitra, who is not however known from any other piece.
3. JNSI, III, p. 80.
4. Ibid., XXIV, p. 151.

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described as the summary representation of the fire-altar, which is essential in sacrifices, according to the *Śatapatha Brāhmaṇa*.[1]

On the coins of the remaining nine rulers, however, the reverse devices have no apparent connection with the names of the kings. As already noted, Anamitra's only known piece has a Brāhmī *ya*-like symbol on the reverse, while a similar symbol (S 16) is found on a recently discovered coin of Vaṅgapāla. A wheel occurs on the larger pieces of Dāmagupta and on the restruck coin of Dāmagupta and Vaṅgapāla. Vasusena has for his reverse type a 'horse', while Varuṇamitra's recently discovered coin is said to bear 'two trees side by side'.[2] A tree-in-railing forms the reverse device of the coins of Śivanandī and Yugasena, while Śrinandī's piece shows on the reverse only the first Pāñchāla symbol (which is, however, a variety of the tree-in-railing). The reverse of the recently published coin of the twenty-third known ruler Rudraghosha is, however, blurred.

The coins of Achyuta and another unknown ruler whose name begins with *Pṛi*[3] are of a different class. Achyuta's coins are of two types. The obverse of Type 1 depicts a bust to right with the letter *A* on one side and *chyu* on the other, while that of Type 2 bears the legend *Achyu* only in bold characters[4]. The reverse of both the types depicts a wheel of eight spokes (the wheel being seen on the coins of an earlier ruler Dāmagupta). The device of *chakra* probably represents the *Sudarśana-chakra* of the god Achyuta (Vishṇu), in allusion to the king's name and thus connects the issues of this king with the earlier series of Pāñchāla coins.[5]

VĀRĀNASI

Two coins discovered from the ruins of Rajghat near Vārāṇasī are said to bear the legend *Vārānasi* in the characters of the first century B. C.[6] Both the pieces bear the figure of a 'horse to

1. *Śatapatha Brāhmaṇa*, VII, 4. 1. 10; *Development of Hindu Iconography* p. 139.
2. JNSI, XXV, p. 243, Pl. I. 7-7a.
3. For the coin of *Pri*, see BMC, AI, p. 119. Pl. XIV. 6.
4. IMC, p. 188, No. 1. Pl. XXII. 8, Type 1 ; and ibid. No. 2, Pl. XXII. 9 Type 2.
5. *Age of Imperial Unity*, p. 173.
6. JNSI, XII, pp. 134-35, Pl. XI. 5-6.

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left' on the obverse and the 'Ujjain symbol' along with the legend on the reverse. The second coin is supposed to give also the name of the issuer which is not distinct. These are apparently the local issues of the city of Vārāṇasī.

CONCLUSION

The above typological survey shows that each locality had its distinct type, although some of the devices or symbols might be common in two or more series. The main types can broadly be divided into two groups : (A) Animal devices, and (B) Deities.

Of the animals, 'Bull' is the characteristic device of the monetary issues of Ayodhyā, irrespective of the change of dynasties and is very common on Kauśāmbī coins, while it is also found on a few pieces of Mathurā. The so called 'Cock' or *hamsa* or peacock is peculiar to Ayodhyā coins alone. 'Three elephants with riders' is the characteristic reverse type of the issues of the early Hindu rulers of Mathurā, while the 'Elephant' itself (without rider) is also to be found on some pieces of Ayodhyā, Kauśāmbī as well as Mathurā. The figure of a 'Horse' is very often found depicted on local coins and it appears on those of Kanauj, Kauśāmbī, Mathurā, Pāñchāla and Vārāṇasī. The figure of 'Lion' is an uncommon device, and it occurs on a few pieces of Kauśāmbī, and as a countermark on a coin of Agnimitra of Pāñchāla. The 'Stag' is also rarely depicted on local coins, and is found only on Almorā issues.

Of the deities, the standing figure of Lakshmī is the characteristic obverse device of the Mathurā coins, while it also occurs on a few pieces of Ayodhyā. Lakshmī is sometimes depicted as 'being anointed by two elephants' on some Ayodhyā coins and on a few pieces of Rājuvula and Śoḍāsa of Mathurā. This 'Abhiseka of Lakshmī' device is also seen on the silver issues of the Indo-Scythian monarch Azilises,[1] and is very common in ancient Indian sculptures. The female deities on the coins of Bhadraghosha and Phālgunīmitra, identified respectively as 'Bhadrā' and 'Phālgunī' are represented like Lakshmī. Other deities are peculiar to Pāñchāla alone and are not to be found on any other local series of coins. They can be grouped together according to their

1. PMC, p. 135, Pl. XIII. 332.

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representations on coins. Thus, 'Agni' and 'Bhūmi' who stand on a platform between pillars on the issues of Agnimitra and Bhūmimitra look alike 'Indra' and 'Vishṇu, the two deities to appear on the coins of Indramitra and Vishṇumitra, as well as the deity on Jayamitra's pieces, are depicted as standing on a pedestal in the same way.

The same two deities (Indra and Vishṇu), when shown as standing within a domed shrine, resemble 'Prajāpati' on Prajāpatimitras's coins and the deity that appears on Jayagupta's issues. On some coins, however, the anthropomorphic forms of these deities are not depicted. We find instead their symbolic representations. Thus, 'Rudra-Śiva' on the coins of Rudragupta, and 'Dhruva' on those of Dhruvamitra are represented by a 'Trident or battle-axe' between pillars within railing, the sun-god 'Sūrya' or 'Bhānu' by a 'globe' or a 'rayed disc', and Achyuta (Vishṇu) by his *chakra* or 'wheel'.

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APPENDIX

The important symbols referred to in this paper are given serially in the plates. 'S' stands for symbol.

S 1 : Kauśāmbī.
S 2 : Kauśāmbī.
S 3 : Kanauj and Kauśāmbī.
S 4 : Kauśāmbī.
S 5 : Ayodhyā.
S 6 : Ayodhyā.
S 7 : Kauśāmbī.
S 8 : Mathurā.
S 9 : Kanauj.
S 10 : Ayodhyā and Mathurā.
S 11 : Kauśāmbī.
S 12 : Kanauj and Mathurā.
S 13 : Ayodhyā and Pāñchāla.
S 14 : Mathurā.
S 15 : Kauśāmbī.
S 16 : Mathurā.
S 17 : Mathurā.
S 18 : Mathurā.
S 19 : Ayodhyā and Mathurā.
S 20 : Kauśāmbī and Mathurā.
S 21 : Almorā.
S 22 : Mathurā.
S 23 : Kanauj.
S 24 : Ayodhyā.
S 24A : Ayodhyā.
S 25 : Almorā.
S 26 : Ayodhyā.
S 27 : Kanauj, Kauśāmbī and Vārāṇasī.
S 28 : Ayodhyā and Mathurā.
S 29 : Ayodhyā.
S 30 : Kauśāmbī.
S 31 : Pāñchāla.
S 32 : Kauśāmbī & Mathurā.
S 33 : Ayodhyā.
S 34 : Ayodhyā.
S 35 : Kauśāmbī, Mathurā and Pāñchāla.
S 36 : Pāñchāla.
S 37 : Pāñchāla.
S 38 : Almorā.
S 39 : Almorā.
S 40 : Ayodhyā.
S 41 : Mathurā.
S 42 : Mathurā and Pāñchāla.
S 43 : Mathurā and Pāñchāla.
S 44 : Mathurā.
S 45 : Ayodhyā.
S 46 : Mathurā.
S 47 : Pāñchāla.
S 48 : Pāñchāla.
S 49 : Kanuaj.
S 50 : Mathurā.
S 51 : Kanuaj.
S 52 : Kauśāmbī.
S 53 : Kauśāmbī.

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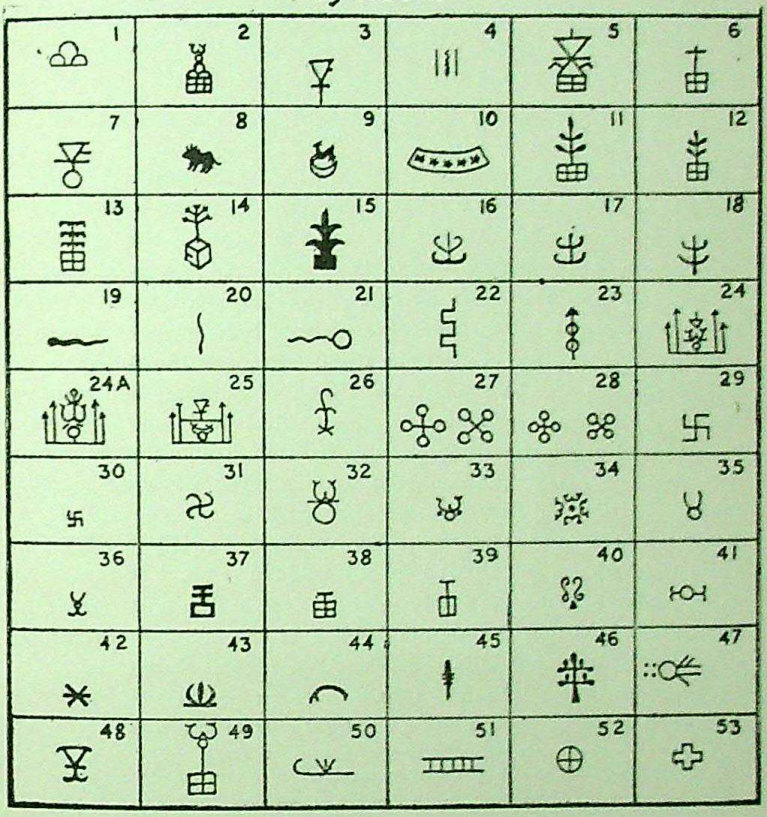
Symbols



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The Bearing of the Local Coins on the Religious Conditons of Central India

T. V. Mahalingam

The devices appearing on the earliest indigenous coins of India shed a flood of light on the problem of the representation of gods and goddesses of the Hindu pantheon either in the form of symbols or in their anthropomorphic form. A large number of punch marked coins as well as cast coins in different metals have been discovered in different places in Central India, among which mention must be made of sites like Ujjain, Eran, Avanti, Besnagar and Maheshwar. The coins from Ujjain alone form the main bulk of the numismatic collection from Central India and provide ample material for the study of ancient Indian numismatic problems such as their origin, method of manufacture, use of different metals etc. The Ujjain coins are very popular, and the symbols found on them are widespread. For instance, the Ujjain symbol known as 'cross and balls' (Fig. b) is found to occur on several of the coins of Eran and Besnagar in East Malwa and in some parts of the Deccan and may thus indicate some political association of these places with Ujjain[1]. The Ujjain coins were carefully examined and symbols found on them were properly classified and grouped by Allan long ago in his *Catalogue of Ancient Coins.*

The Ujjain coins present a number of varieties among them and the symbols on them, both on the obverse and reverse side, reflect the contemporary, socio-economic, religious and cultural conditions in Central India. The coins bear a good number of devices of different types and represent natural objects like, the hill, river, tree etc., and heavenly bodies like the sun, moon etc., and symbolic and anthropomorphic representations of deities belonging to the Brahmanical religion besides Buddhist symbols.

An outline idea of the religious conditions during the few centuries before and after the Christian era in Central India may be formed from a study of the different symbols stamped on the

1. The exacavations at Māheshwar have also yielded a few coins which bear this Ujjain Symbols.

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coins from the locality. The coins possessing symbols of religious importance from the area may be grouped under three or four categories according to the nature of emblems or the deities of worship found on them. They are as follows :

Worship of Nature or Objects of Primitive Worship

The punch—marked coins as also some of the die struck coins bear symbols to represent the sun, crescent moon, hill, river, wheel (which also represents the sun), and tree in railing. These symbols suggest that Nature in its varied manifestations was worshipped by the people. They are found not only on the coins from this area, but also from many other regions in the country; they are also found scratched on the potsherds of the period which are popularly called *graffiti* marks. In ancient times man was mainly dependent on natural phenomenona like the sun, radiating heat and light, the clouds giving rains, the hill offering protection and food, and the tree giving shade and fruits which were the needs for his day to day life and so he in turn showed them respect by way of offering worship, sacrificing animals to them and also portraying them as symbols on objects like earthen pots, coins-etc. Nature worship in fact was the first step towards the recognition of her power and supremacy over mortal men and women and also the first chapter in the religious history of any country. It has had a continuous history in society and still remains a living practice.

Worship of Brahmanical Deities

Besides the objects of Nature, there are good number of coins which bear symbolic and also absolute of full representation of a few deities of Brahmanical religion like Śiva in his various manifestations, Kārttikeya and Lakshmī. The Nāga cult as well as the worship of the Yakshas and Yakshiṇis were not uncommon among the people of Central India in the early centuries of the Christian era. But the coins which bear such religious symbols or emblems pose a problem to the numismatists with regard to their identification and proper interpretation. Divergent views have been expressed on the problem and therefore no satisfactory or conclusive result can be arrived at in the present state of our knowledge. However, an attempt is made here to interpret such

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symbols as the attributes of some Brahmanical deities and tentatively identified with them.

Śiva :

(a) A human figure holding a staff and a vase in his two hands on one of the Ujjain coins may be identified with Śiva (Fig. c)

(b) A three arched mountain with a crescent above may be taken to mean an aniconic representation of Śiva (Fig. a).

(c) A Śiva liṅga like symbol is seen represented on a pedestal placed between two trees inside railing. It is held that this is the earliest representation of the linga on local coins of the historical period (Fig. d).

(d) A three headed standing figure holding a club in one hand and a watervessel in the other, both of which symbols are characteristic of those of Śiva, may be identified with Mahākāla (Fig. e).

Besides the above features of the Brahmanical religion there is yet one more aspect which deserves mention in this connection; horse is represented on a number of coins suggesting the popularity of the horse sacrifice (*aśvamedha*) in this area during the period. It is one of the most impressive aspects of the Vedic religion.

Vishṇu :

No figure has been properly identified with Vishṇu though attempts have been made to associate the wheel symbol with the chakra of Vishṇu. The wheel symbol is found occurring on a number of coins and may be taken to stand for the Chakra of Vishṇu or of the Sun god or even the Buddhist symbol, the Dharma Chakra. But nothing can be said conclusively about this symbol.

Surya :

The Sun god is represented in the form of wheel and its variant forms on the coins. The lotus symbol may also be taken

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to represent the Sun god on account of its creative power on the earth.

Nāga Worship :

The serpent and *triśūla* are prominent on the coins of the Bhāra Śiva dynasty which held sway in Central India during pre-Gupta period. They were ardent devotees of Śaivism and particularly of the Nāga cult. The bull or Nandi is also frequently met with on the coins of the rulers. Snake and Bull are also found on the Ujjain coins.

Lakshmī :

The goddess of wealth and the consort of Vishṇu, Lakshmī is seen well represented on a few coins obtained from Central India. A coin from Eran bears the figure of Goddess Lakshmī seated and anointed by two elephants (Fig. f). It is also frequently found on the Ujjain coins as standing on a lotus with a lotus flower in hand and sometimes bathed by two elephants.

Yaksha and Yakshiṇī Worship :

A few coins bear male and female figures which resemble the Yaksha and Yakshiṇī figures as seen from the art pieces of the contemporary period. The dress, ornaments, and attitudes of these figures also lend support to their identification with the Yaksha and Yakshiṇī cults. It is also interesting to note that they are found in couples on a few coins. They bear evidence to the then local custom of paying veneration to such demi-gods and goddesses.

Buddhist Symbols :

There are a number of coins which have the Buddhist symbols like the *svastika*, tree in railing, the *dharma chakra* etc., which signify the popularity of Buddhism in this part of the country during the early centuries of the Christian era. The symbols referred to are found to occur on the punch-marked coins collected from different places. They also attest to the spread of Buddhism and its popularity among people in the area.

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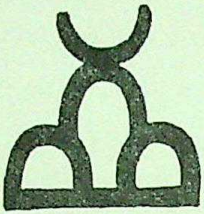
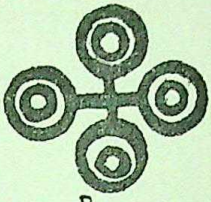


A



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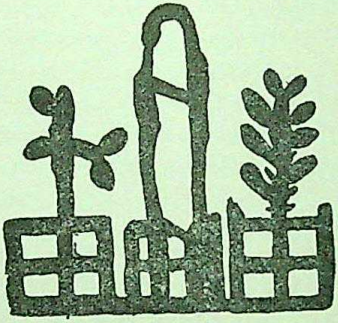
C



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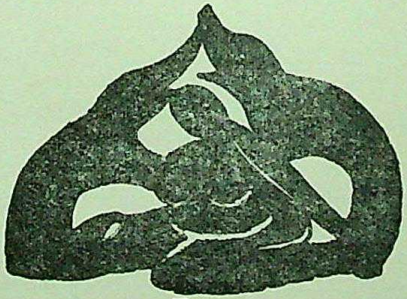

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Reverse Device of Panchala Coinage

Vidya Prakash

Pāñchāla was one of the sixteen *Mahājanapadas* of ancient India. It was divided in two parts—Northern Pāñchāla and Southern Pāñchāla with their capital respectively at Ahichhatrā (identified with modern Rāmnagar in the Bareilly district of U. P.) and Kāmpilya (identified with modern Kampil in the Farrukhabad district of U. P.). The numismatists have attributed a particular series of coins, which are known as Pāñchāla coins to the local dynasty of this *janapada*. The coins of this series are uniform in majority of the cases,[1] depicting on the obverse three Pāñchāla symbols with name of the king below, written in Brāhmi genetive in a square incuse, impressed on a round flan, The most interesting feature of the Pāñchāla coinage is its reverse device which is the representation of a deity either in aniconic or anthropomorphic form. Allan long ago thought that there is a connection between the name of the king on the obverse and the depiction of deity on the reverse. In other words the reverse has the representation of a deity which corresponds to the name of the king. Thus, Vishṇu nitra had on the reverse the depiction of Vishṇu, Agnimitra that of Agni, Bhadraghosha that of Goddess Bhadrā, and so on. Allan's identifications and his hypothesis apparently is very fascinating and most of the scholars agree with him. B. P. Bhatt has recently discussed this problem but he too does not differ from Allan's identifications. The only point which he tries to emphasise is the different motive behind the depiction of the reverse devices, namely that they are an attempt to portray or give a visual impression of the names of the kings inscribed on the obverse sides,[2] because, to think that the kings changed their names to suit their new cult allegiance at least fifteen times is not only improbable but also inconceivable.[3] Bhatt's contention,

1. Allan remarked in his *Catalogue* that this coinages is the 'most uniform series of ancient Indian coins'. But with newer discoveries a number of diversions from this uniformity are noticed.
2. JNSI, XXIV, p. 151.
3. Ibid., p. 150.

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though interesting, is highly imaginative and cannot be supported by any corroborative evidence. It has never been a numismatic practice in India that a king depicted a god on his coins just because his portrayal gave a visual representation of king's name. Gods were not that cheap. Their depiction on coins meant something different, such as bringing about prosperity to the king and his people, showing allegiance to the god whom he worships or respecting the gods of his subjects. Allan, therefore, appears correct in saying that the deities depicted on the reverse of Pāñchāla coins are the patron deities of the respective kings. But in all the cases they do not necessarily portray the deity hinted at by the king's name. When Allan made his aforesaid generalisation in 1936, he knew only of 13 Pāñchāla kings[1] since then many more Pāñchāla coins have been discovered, adding about a dozen names to the list of Pāñchāla rulers. Arranged alphabetically they are as follows :—

Anamitra,[2] Aśvamitra,[3] Dāmagupta,[4] Prajāpatimitra,[5] Rudraghosha,[6] Śivanandī,[7] Śrinandī,[8] Varuṇamitra,[9] Vasusena,[10] Yugasena[11] and Yajñapāla.[12]

In the light of these new discoveries, I am afraid, Allan's theory of the name of the king being symbolised by the deity will not hold good. Allan's judgement was based on very limited coins in which he could explain each deity on the reverse as corresponding to king's name. We think on the other hand, taking into account the material available upto date that the representation of the deity either aniconically or anthropomorphically or in some cases theriomorphically, but it does not necessarily corresponds to

1. BMC, AI, pp. 192-201.
2. JNSI, XXVIII, I, p. 43, pl II, 8.
3. JNSI, XXIV, p. 12.
4. JNSI, II, pp. 115-16; Ibid XV, pp. 43-44.
5. Ibid., III, pp. 79-82.
6. Ibid., XXIV, pp. 9-10.
7. Ibid , XV, pp. 42-43.
8. Ibid., XXIV, p. 22.
9. Ibid., V, pp. 17-18, 153.
10. Ibid., II, pp. 115-16; Ibid., XV, pp. 43-44.
11. BMC, AI, pl. XLV, 12; JUPHS, V, II, pl. II.
12. JNSI, IV, pp. 17-20.

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the name of the king on the obverse. In some cases it is certainly so.

Some of the Pāñchāla kings such as Sūryamitra and Bhānumitra appear to have been the worshippers of sun god. Both of them portrayed the aniconic form of the god on the reverse of their coins. It is not at all surprising that their names indicated their faith. There are many such examples in history. But this was a mere coincidence and on the basis of this coincidence Allan tried to see in every coin this very relationship between the name of the king and reverse deity. In this attempt he could not find this relationship directly, therefore, he tried to prove it rather indirectly. For example with reference to the reverse device on the coins of Dhruvamitra[1] Allan says, "On no. 53 (Pl. XXVII. 5) it looks like a battle-axe, but on no. 55 (Pl. XXVII. 6) and others the shaft is clearly bent. It must be a symbol of Dhruva, the pole-Star."[2] This is one example to show that his logic is based on imagination.

In case of some recently discovered Pāñchāla coins it will not be possible at all to apply Allan's theory. The coin of Yugasena[3] has on the reverse a rectangular enclosure with a tree inside.[4] The coin of Vaṅgapāla has on reverse a symbol composed of a vertical line and two arches.[5]. The coin of Anamitra has a symbol resembling Brāhmī *ya* on the reverse.[6]

Although at present I have not been able to collect all evidences for the hypothesis which I want to propose, but I feel that the Pāñchāla kings depicted on the reverse of their coins some Brahmanical deity either anthropomorphically or in the form of symbols. There is not necessarily any connection between the name of the king on the obverse and the deity or religious symbol depicted on the reverse.

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1. BMC, AI, pl. XXVII, 8-9, 15, 18-20.
2. Ibid., CXVIII.
3. Allan on the basis of three coins in the British Museum read the legend as *Pu-senasa* or *Puṅgasenasa* (BMC, AI, pp. cliv and 279). Out of three coins, one is illustrated on pl. XLV. 12.
4. JNSI, XXIV, p. 11.
5. Ibid , p. 10.
6. Ibid., XXVIII, I, p. 43, pl. II. 8.

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Bearing of Excavations on the Chronology of Mathura Coins

M. D. N. Sahi

This study takes into account mainly the finds of Mathura coins at Rupar, Hastinapur and Purana Qila (Delhi). There are a few other scientifically excavated sites which have yielded these coins, e.g. Mathura itself, but a proper report is not available. It may also be pointed out that since the complete and detailed reports of the above mentioned sites, except Hastinapur, have not been published it is difficult to gather any detailed information about these coins, particularly, the symbols on the obverse, weight and size and the names of the rulers who issued them. Therefore, we have to depend on the sketch reports[1] of the excavators, presuming that the coins have been correctly attributed and identified.

At Rupar, Mathura coins have been reported from the early levels of Period IV dated between 200 B. C. to 400 A. D.[2] Detailed descriptions of these coins are not available. From the late phase of the Period III dated between 600 to 200 B. C.[3] an inscribed seal bearing Mauryan Brahmi characters was recovered, which has been assigned to the end of 3rd century B. C. by the excavator. Hence the Mathura coins at Rupar appears to be post-Mauryan in date.

Besides the Mathura coins, the early levels of Period IV (200 B. C. to 400 A. D.) yielded coins of Indo-Greek rulers including those of Antialcidas and Apollodotus II, and local Taxila coins. This period is also characterised by the cessation of N. B. P. Ware, and the occurrence of mainly Red-Ware industry with impressed and incised designs and terracotta human figurines of Sunga style. Thus a contemporarity between the Mathura and Indo-Greek rulers is also established. According to Marshall[4], Antialcidas was the successor of Lysius who reigned between 135

1. Numbers of IAR.
2. Y. D. Sharma, *Lalit Kala*, Nos 1-2, April, 1955—March 1956, p. 127.
3. Ibid., p. 125.
4. Marshall, *Taxila*, I, p. 37.

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and 125 B.C. A.K. Narain[1] puts him as the ancestor of Heliocles II who probably died in c. 115 B. C. and was succeeded by Antialcidas (115 B. C.—110 B. C.).

The coins of Audumbaras and Kunindas (100 B. C.—100 A. D.) were obtained from the mid-levels of the same period followed by the coins of Kushana rulers from the still later levels. According to Allan[2] Audumbara coins are to be dated on palaeographic and stylistic grounds, to the Ist century B. C. or A. D. Therefore, stratigraphically the Mathura coins at Rupar are post-Mauryan and pre-Audumbara, and contemporaneous with the coins of Indo-Greek rulers.

The stratigraphic position of the Mathura coins at Hastinapur is very much in line with the one obtained at Rupar. Five coins of the rulers of Mathura including two of Śesadatta have been reported from the earliest levels of Period IV dated between 2nd century B. C. to the end of the 3rd century A. D. Struck on copper, they have on the obverse the usual standing figure of Lakshmi facing, a row of dots underneath, symbols on the right and left and bearing the legend *rajño śesadatas*. The device on the reverse is obliterated on every coin. Their size varies from .66 to .73 inches and weight from 114.55 to 47.1 grains.

The preceding period III dated between *circa* 600 to 300 B.C. was characterised by the occurrence of N. B.P. Ware, besides coarse Grey Ware and Red Ware. Other associated finds of this period were, punch-marked coins and uninscribed cast coins, ring wells, and terracotta animals and human figurines some of them being moulded. The cultural equipment of Period III is an marked contrast to the succeeding Period IV (200 B. C.—300 A. D.) yielding Mathura coins. During this Period N. B. P. Ware is conspicuous by its absence. Pottery is exclusively of Red Ware industry, the characteristic shapes being knobbed lids and sprinklers, generally associated with Sunga-Kushana levels, on a majority of the sites of the Gangetic Valley. Terracotta figurines, particularly the female bust, executed in Sunga style was also recovered from the same level and is thus associated with the Mathura coins.

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1. A. K. Narain, *The Indo-Greeks* (Oxford, 1957), pp. 109 and 117.
2. J. Allan, BMC, AI, p. lxxxvi.

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Though, according to the excavator, there is a gap between the end of Period III and the beginning of period IV, yet, from the study of the cultural equipments of the two Periods it appears that the gap is rather superficial and may be narrowed down. As an illustration it may be noted down that the tradition of punch-marked coins and cast copper coins still continues in the Period IV. Similarly the practice of constructing ring wells continues up to atleast the earlier phases of the same period.

From the middle phase of Period IV were obtained tribal coins of the Yaudheyas, succeeded by the Kushana coins, occuring in the upper-most level of the period. The Yaudheya coins bore on the obverse and reverse respectively the figures of a bull and an elephant. On the obverse above the bull was also the legend referring to the Yaudheyas. Smith[1] considers this 'bull and elephant type' of coins as the 'earliest' amongst the Yaudheya series and puts them a 'little before or after the Christian era'. Allan[2] has dated these coins to the late second first century B. C.

Another datable object obtained from the same mid-levels of the Period IV is the inscribed rim of a vase of red ware. The inscription on it reads '*Sādhujatas*' in Brahmi characters of about the Christian epoch[3]. Taking the epoch of the Christian era as a fixed date, we may work backwards and take the Yaudheyas as preceded by about fifteen Mathura rulers, assigning aproximately 10 years as the duration of each reign, and so determine the beginning of the 2nd century B. C. or the end of the 3rd century B. C. as the period of the rise of Mathura rulers.

The same cultural sequence is revealed from Purana Qila, Delhi[4], where Mathura coins were preceded by the occurrence of N. B. P. Ware, punch-marked, cast copper coins and ring wells. Mathura coins were associated with terracotta figurines of the Sunga style, predominently dull red pottery with a variety of stamped designs. Mathura coins were succeeded by the coins of Yaudheyas who were themselves succeeded by those of the Kushanas.

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1. Smith, V. A., IMC, I, p. 165.
2. Allan. J., BMC, AI, p. cxlix.
3. AJ, Nos. 10-11, p. 99.
4. IAR, 1954-55, p. 14.

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On the combined testimony of these archaeological evidences, the Mathura coins should be placed between early 2nd century B. C. and the beginning of the Christian epoch, the probability being in favour of an earlier date within this period.

Main inferences about the relative chronology of the Mathura coins are summed up below :

(i) They are post-Mauryan, post-N. B. P. Ware and post-cast copper coins.

(ii) They are later contemporaries of the punch-marked and cast copper coins (evidence from HST).

(iii) They are contemporanious with the Indo-Greeks (Rupar evidence) on the one hand and Sungas on the other (terracotta human figurines of Sunga style is associated with these coins on all the above mentioned sites).

(iv) They precede the Audumbaras and Kunindas in the region of Punjab and the Yaudheyas in the upper Ganga-Yamuna doab.

(v) The tribal coins of Audumbaras, Kunindas and Yaudheyas are pre-Kushana.

Besides these inferences, the following historical deductions may be attempted,

1. Mathura emerged as an independent kingdom immediately after the downfall of the Mauryan empire.

2. Negative evidence, by way of conspicuous absence of Indo-Greek coins from the excavations at Ahichchhatra, Purana Qila, Hastinapur and Mathura, indicates that this region was not under the occupation of Indo-Greeks.

3. Occurrence of the Mathura coins along with the Indo-Greek coins from the same level (early phase of Period IV at Rupar) indicates, mutual cultural, trade and friendly relations between the Indo-Greek rulers of the North West and the rulers of Mathura. Expression of such gestures is to be seen in the Garuda Pillar Inscription of Besnagar. The above conclusion gets further corroboration from the *Yuga Purāṇa* section of

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Gārgī Samhitā which tells us that Panchalas and the Mathuras who were known for their valour, attacked Saket along with Yavanas and marched on to possess Kusumadhvaja (Pataliputra)[1]. Occurrence of the coins of Indra Mitra, a Panchala ruler at Kumrahar also leads us to the same conclusion.

4. Consequently, the empire of Pushyamitra was very much circumscribed than is usually supposed on the basis of Taranatha and the *Rājataraṅgiṇī*. Punjab, Mathura and Panchala do not appear to have been included in the empire of Pushyamitra.

11. Narain, A. K., *The Indo-Greeks*, (Oxford, 1957), pp. 82-83.

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The Chronology of Early Cast Coins

K. K. Sinha

This paper deals with certain aspects of relative chronology of the earlier issues of the uninscribed and inscribed cast coins. Allan hinted on the probability that some of the early issues of the inscribed cast coins could be dated to the late 3rd or early 2nd cent. B. C. Allan primarily relied on palaeography for the above dating. Dani does not find himself in agreement with the dating proposed by Allan. The former is of opinion that palaeography is a loose basis. Dani's second objection is that if inscribed cast coins of Mathura, Panchala and Kausambi are to be dated as early as 3rd cent. B. C. it would mean Sungas had no authority even in the main Ganga Valley. This position is hardly tenable according to Dani, in the face of Bharhut and Ayodhya inscriptions. Dani, then, goes on to propose that it would be 'for more reasonable to accept that the penetration of Indo-Greeks into the heart of India led to a new technical evolution in the coinage of the country—they were now inscribed and die struck'. Accordingly he would date the inscribed coins from about 150 B. C. Let us consider Dani's arguments in objecting to a late 3rd or early 2nd century B. C. date for the earliest of Mathura, Panchala and Kausambi series. We may ignore his first objection of palaeography being a loose basis, as that can be made to work both ways. Dani's second objection is based on the assumption that Sungas ruled over an extensive empire and that they exercised firm control over the whole of the northern India, particularly the main Ganga Valley. There is a good deal of controversy over the question of Pushyamitra's extent of empire. One group of scholars placing reliance on the *Divyāvadāna* holds that Pushyamitra ruled as far as Saketa in north west India (now in Pakistan). Performance of horse sacrifice is often cited as additional evidence. On the other hand, there are scholars who would credit the Sunga ruler with holding only Magadha and Saketa. Perhaps A. K. Narain's view that Pushyamitra was 'able to control two key centres Pataliputra and Vidisha in an effective manner appears to be reasonable'. In any case, it appears unlikely that Mathura, Panchala, and perhaps

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Kausambi were under the domination of the Sunga rulers for any appreciable length of time. Positive evidence is lacking in this direction. I have purposely not gone into the controversy over the question of the extent of Sunga empire as that has a limited relevance to the issue. There appears to be yet another major anamoly in Dani's argument. Even if we are to agree with him for a moment, that Sungas, particularly, Pushyamitra exercised effective control over the whole of north India including Mathura and Panchala, how does it follow from this that all the local rulers of Mathura and Panchala and their coinage must post date the rise of Sunga power. Indeed, the political condition of northern India such as it existed during the time of the later Mauryas must have favoured the rise of the local powers to a position of eminence, asserting their authority in the region under their control and at the same time freeing themselves of the authority of the declining power of the Mauryas. These local rulers could be expected to have issued their own coins bearing their names. Is it not more logical to assume that Pushyamitra Sunga and his successors had to contend with these perhaps well established local rulers, masters of their respective territories with their coins in limited numbers already in the markets. Whether the Sunga power subjugated these local principalities or not is then a matter of purely academic interest so far as the date of the earliest issue of the inscribed coins is concerned. A late 3rd cent. B. C. or early 2nd cent. B. C. date for the earliest of the inscribed coins of Mathura, Panchala and Kausambi does not, therefore, appear unjustified. In fact, this date has yet another advantage to commend itself. We have to account for more than 15 rulers of Mathura as we know them from their coins, before the beginning of Saka rule in Mathura. Similarly, there are about 19 rulers of Kausambi who must have ruled there before Kushanas. It would be easier to explain the existence of the long series of rulers with a late 3rd cent. B. C. for the beginning of the series instead of 150 B. C. as proposed by Dani.

Finally, Dani speeks of a technical evolution in the local coins which are inscribed and die-struck and this evolution, according to him is traceable to the influence of the Indo-Greek coinage which in turn was the result of Indo-Greek penetration into the heart of India. As this happened round about 150 B. C., Dani

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finds yet another justification for dating the inscribed coins of the local rulers to 150 B. C. Normally, one could have no quarrel with this argument, but I think we do need to make a distinction here between the two sets of inscribed coins, those which are cast and those that are struck. Yes, the use of die and the technique involved in striking the coins do introduce a new element in making of coins and this may as well as have been influenced by the then circultaing Indo-Greek coins in 150 B. C. But what about the inscribed cast coins ? The rulers of Mathura, Panchala and Kausambi did issue 'inscribed cast coins' as well. The only innovation that these coins, involved over the earlier uninscribed was the presence of the legend. There dose not appear any justification to corelate in time to this innovation with the Indo-Greek penetration as suggested by Dani.

We may, therefore, conclude that the earliest issues of the local coins of Mathura, Panchala and Kausambi could be dated to about late 3rd cent. B.C. or early 2nd cent. B.C. and correspondingly the early uninscribed coins which preceded the above series may be dated to mid-3rd cent. B. C. i.e. 250 B. C. or a little earlier.

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Religious Study of the Symbols on the Local Coins of Central India

Ajay Mitra Shastri

Eran, Besnagar and Ujjain are the three major Central Indian provenances of coins of a local character belonging to the period of political uncertainty following the dismemberment of the Maurya empire. Sporadic finds of local coins have been reported from other places also in the present Madhya Pradesh. The coins of the city states of Tripurī, Bhāgilā, Kurara and Māhishmatī deserve special notice in this connection. With the exception of a few specimens bearing the names of the issuing cities, these coins are generally uninscribed. Some of the symbols occurring on these coins are common, but their fabric is distinct enough to enable us not to err one series for the other.

In order that we are able to gauge fully the significance of these coins, the mystery shrouding the numerous symbols figuring on them must be unravelled. That these symbols, like those appearing on the punch-marked coins, were not without significance is now generally recognised. Their meaning was fully understood by the people who used these pieces[1]; but after a lapse of millennia we are now without means to recognise their full significance. It is, however, generally agreed that quite a few symbols noticed on these coins are of a religious character. The value of a systematic study of these symbols for a student of the religious history of ancient India can, therefore, be hardly overestimated. In the following pages an attempt is made to offer a study of some of the symbols found on the local coins of Central India and indicate their bearing on the religious history of this region.

The symbols seen on our coins, as those on other series of local coins, admit of being classified into two broad groups, to wit, (1) sectarian symbols, and (2) general auspicious marks which were held in veneration by the people at large irrespective of their sectarian affiliation. We shall first devote our attention to the symbols that appear to have a definite sectarian significance

1. Cf. *Visuddhi-magga*, quoted in *ASI, AR*, 1913-14.

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and thereafter refer *en passim* to mark of a general auspicious character.

At the very outset it must be remembered that the iconography of the different gods and goddesses worshipped by the people was in a formative stage during the period of our survey. The transition from the earlier aniconic practice to the iconic one took place in the earlier part of our period. But even after iconism had come into existence, the earlier practice of representing gods and goddesses aniconically continued unabated. This was true of all the then religious systems, whether Brahmanical or non-Brahmanical. Owing to this peculiar phenomenon, which is true of the present-day Indians also, on these coins we come across anthropomorphic as well as symbolic representations of the various deities side by side. As will be seen from the sequel, sometimes we see on the same coin both the symbolic and anthropomorphic forms of the deity.

According to Hindu tradition, Ujjayinī has been a stronghold of Brahmanism, especially Śaivism. It is famous for the temple of Mahākāla, one of the twelve Jyotirliṅgas. Kālidāsa, it will be recalled, very fervently describes the ritual worship at the Mahākāla temple at Ujjain[1]. But Kālidāsa is now generally placed in the Gupta age. The numismatic evidence, however, leaves no room for doubt about the popularity of Śiva worship at Ujjayinī at a much earlier date, i. e. 3rd-2nd century B. C. On the Ujjayinī coins the god Śiva is figured symbolically as well as in anthropomorphic from.

It was an ancient practice to represent divinities theriomorphically. Later, when these deities came to be represented anthropomorphically, the animals which were so far used to symbolise them were transformed into their attributes, e.g. *vāhanas*. Thus, the bull, which later came to be regarded as Śiva's *vāhana*, was at

1. *Meghadūta*, I. 34-35; *Raghuvaṁśa*, VI. 34. The Mahākāla image in worship at Ujjain is referred to by Alberuni (E. Sachau, *Alberuni's India*, I, p. 202), later, Iltutmish carried it to Delhi where in front of a mosque it was broken to pieces, vide, Cunningham, *Coins of Ancient India*, p. 98. For other references to Mahākāla see *Mahābhārata*, Gita Press; III. 82-45; *Matsya Purāṇa* XIII, 41; XXII, 24, CLXXIX. 5; *Brahma Purāṇa* XLIII. 66; *Skanda Purāṇa* IV, 1. 71.

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first used by itself as a symbol standing for Śiva. He is represented in this theriomorphic form on a gold coin of a Śaka chief[1] as also on the coins of the Hūṇa chief Mihirakula[2]. On these coins the god is referred to simply as 'the bull'[3]. Hesychus was acquainted with the prevalence of the cult of this theriomorphic god in Gandhāra.[4] The association of Śiva with the bull goes back to a much earlier date. The *Gṛihyasūtras* describe a sacrifice called *Śūlagava* in which a bull was sacrificed to Rudra-Śiva to appease him. The *vapā* or omentum was offered him by reciting the *mantras* especially connected with Rudra-Śiva.[5]

On the coins of Ujjayinī also we come across the representation of Śiva in the form of bull. On the obverse of Variety *k* of Class 1,[6] Variety *h* of Class 2[7] and Varieties *a-f* of Class 5[8] the bull appears in association with a tree in the railing (Fig. 1) which may be regarded as a *sthala-vṛikska* sacred to Śiva. The same device is to be found on the reverse of Variety *o* of Class 2[9]. The figure of walking bull also occurs on the obverse of Varieties E and *f* of Class I of the Kasarwad Hoard of Ujjain coins[10].

Śiva was also represented in the form of the *liṅga*. On variety e of Class 1 we meet with the representation of the *liṅga* placed on a pedestal between two different trees in the railing (Fig. 2)[11]. As pointed out by J. N. Banerjea,this phenomenon of the *Śiva-liṅga* being associated with trees can be explained by referring to the modern practice that many of the *liṅgas* worshipped in

1. Gardner, *BMC, Indo-Greeks*, etc. Pl, XXIX. 15.
2. Smith, *IMC*, Pl. XXV. 5.
3. *Tauras* and *Ushabhe* on the former and *jayatu vrishaḥ* on the latter.
4. Quoted by J. N. Banerjea in *Development of Hindu Iconography*, 2nd edition, p. 139.
5. *Āśvalāyana-Gṛihyasūtra*, IV. 9; *Pārashara-Gṛihyasūtra*, III. 8; *Hiranyakeśi-Gṛihyasūtra*, II. 3. 8. See also R. G. Bhandarkar, *Collected Works*, IV, p. 150.
6. Allan, *BMC, AI*, p. 244, Pl. xxxvii. 1.
7. Ibid, p. 249, Pl. xxxvi. 15-16.
8. Ibid, pp. 258-60, Pl. xxxvi. 12-14; xxxvii. 9-11; 18; xxxviii. 26-28.
9. Ibid, p. 252.
10. *JNSI*, VIII, p. 102. Pl. 5-7.
11. Allan, *BMC, AI*, p. 243, Pl. xxxvi. 15. J. N. Banerjea's statement that this device occurs on variety *c* Of class 1, *Development of Hindu Iconography*, p. 114; is evidently due to oversight.

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India have their particular trees[1]. On certain other coins there seems to figure what may be described as a rather realistic representation of the phallic emblem of the god Śiva placed on the top of a tree in the railing between its two topmost branches (Fig. 3)[2]. It has evidently the same symbolic value as the preceding motif. It is interesting to note that sometimes this motif is found associated with the bull (Class 1, Variety *k*[3]; Class 2, Variety *h*[4]). Here we are brought face to face with a phenomenon which must be interpreted as combination of the theriomorphic and phallic representation of the god Śiva and a *sthala-vṛiksha* sacred to him.

The most interesting of the Ujjayinī series of coins are, however, those that bear an anthropomorphic representation of the deity. The god is singleheaded[5] on some coins (Fig. 4) and three-headed[6] on others. The single-headed god holds in one of his hands, usually right[7], what looks like a staff (*daṇḍa*) or spear (*śakti*) and in the other what is described as 'an uncertain bag-like object'[8], 'bag (?)'[9], or 'pouch'[10]. The latter object, however, looks more like a *kamaṇḍalu* or watervessel. This one-headed human figure also occurs on some punch-marked silver coins[11]. Allan identifies the deity as Kārttikeya, evidently because he regards the object usually held in the right hand by the divine figure as spear[12]. Cunningham identified this object as 'a Sun-standard' but thought that the presence of the tree surrounded by a railing indicated that these coins were struck during the prevalence of Buddhism.[13] But as pointed out by J. N. Banerjea[14], the singleheaded deity should be identified with Śiva, especially

1. Ibid, p. 114.
2. Several varieties of Allan's Classes 1 and 2.
3. Allan, *BMC, AI*, p. 244, Pl. XXXVII. 1.
4. Ibid, p. 249, Pl. XXXVIII. 15.
5. Allan's Class 2, Varieties *a-k*.
6. Allan's Class 2, Varieties *l-o*.
7. There are some exceptions where this position is reversed, e.g. Allan, *BMC, AI*, Pl. XXXVIII. 11-12.
8. Ibid, p. 245.
9. Ibid, p. 250.
10. Ibid, p. 249.
11. Ibid, Introduction, p. xxxvi.
12. Ibid, pp. xxxvi, cxlii, 245.
13. Cunningham, *Coins of Ancient India*, p. 97.
14. *Development of Hindu Iconography*, p. 117.

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because the objects held by him, viz. *daṇḍa* and *kamaṇḍalu*, are particularly associated with Śiva.[1] In this connection special interest attaches to Variety *h* of Class 2 which shows the bull (now his vehicle) looking at the deity (Fig. 5).[2] This, as suggested by J. N. Banerjea, corroborates the *Matsya-Purāṇa* passage laying down that Śiva's mount Viśākha should be shown in the attitude of looking at the god.[3] It may be added in this connection that in this variety we also find the representation of the *Śiva-liṅga* on the top of the tree in the railing, thus combining the phallic, theriomorphic and anthropomorphic forms of the god on one and the same specimen.[4]

On some of the coins from Ujjayinī we notice a human figure standing with his left hand raised up and the right one resting on the hip.[5] On one such coin the deity is shown standing beside a trident *triśula* (Fig. 6)[6] which clearly establishes his identity with Śiva. The tiny human figure standing with hands stretched in a line appearing on another Ujjain coin[7] may also stand for Śiva. A. S. Altekar and D. B. Diskalkar describe the standing human figure appearing on the obverse of Class I, Var. F of the Kasarwad Hoard of Ujjain Coins as Kārttikeya holding *śakti*.[8] But the figure is not quite clear on the illustration given in the accompanying plate; the association of the deity with the bull, however, seems to indicate his identity with Śiva. A cast coin from the same hoard contains a trident and a human figure[9], and as suggested by Altekar and Diskalkar, they may have a reference to the deity Mahākāla of Ujjain and his *āyudha*.[10]

Attention must be invited in this connection to Variety *b* of Class 4 showing two human figures on the obverse (Fig. 7).[11]

1. *JNSI*, XVII, Pt. II, Pl. X, fig. 40 where a *kamaṇḍalu* is placed beside the deity.
2. Allan, *BMC, AI*, p. 249, Pl. XXXVII. 15-16.
3. *Development of Hindu Iconography*, p. 117.
4. A very crude representation of the human figure found on some Ujjain coins also may stand for Śiva. But this is not certain.
5. *JNSI*, XVII, Pt. II, Pl. X, figs. 43-44.
6. Ibid, fig. 45.
7. Ibid, p. 43.
8. Ibid, VIII, p. 102.
9. *JNSI*, VIII, Pl. VI, 17.
10. Ibid, p. 104.
11. Allan, *BMC. AI*, Pl. XXXVI. 1-3; *JNSI*, XIII, Pl. V. 11.

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Allan described both these figures as female.[1] But as pointed out by J. N. Banerjea, only one of these figures is a female while the other is a male. But his view that here we have a Yaksha and Yakshiṇī couple[2] does not appear to be probable. It has to be remembered in this connection that the Yaksha and Yakshiṇī figures are very common in early Indian art, but nowhere do we across the Yaksha and Yakshiṇī couple. The *mithunas* or amorous couples are also very common and they continued to enjoy great popularity till late times. But in these compositions the female figure appears invariably to the left of the male figure in strict conformity with the age-old Indian tradition which accords the wife a place to the left of her husband. There is, however, one important motif connected with Śaiva mythology which may help us in identifying the device in question. Some sculptural panels at Elephanta and other places depict the scene of the marriage of Śiva and Pārvatī.[3] In these panels, Pārvatī is shown to the right of Śiva. The same is the case with the marriage scenes of Kārttikeya and Devasenā in which the latter is placed to the right of the former.[4] This is in accordance with the Dharmaśāstra texts which lay down that the time of the performance of the marriage sacrament the wife occupies a seat to the right of the husband until the ceremony of *Pāṇi-grahaṇa* takes place after which the wife gets her rightful place to the left of her husband.[5] These *Kalyāṇa-sundara* and *Vaivāhika* scenes were popular both in the south and the north.[6] It is interesting to note in this context that on the coins under consideration the female figure is to the right of the male one. It may, therefore, be suggested that the obverse device of these coins

1. *BMC, AI*, p. 257.
2. *Development of Hindu Iconography*, pp. 150-51. Vide also *IHQ*, X, pp. 723-25.
3. For Elephanta panel, see, Hirananda Sastri, *A Guide to Elephanta*, pp. 35-36, Pl. X.
4. R. C. Majumdar & A. D. Pusalkar (Ed.), *The Age of Imperial Kanauj*, p. 348.
5. Cf. *Hiraṇyakeśi-gṛihayasūtra*, I. 5. 5; *Vyāghra-smṛiti*, 84. The *Naishadhiya-charita* refers to the change of the position of the wife from the right to the left side of the husband after the ceremony of *pāṇi-grahaṇa*
6. There is a *Kalyāṇa-sundara* image in the Bharata Kala Bhawan of Banaras Hindu University, vide *JNSI*, XIX, p. 137. For some other *Kalyāṇa-sundara* panels from North India, see, *History of Bengal*, I, p. 446; N. K. Bhattasali, *Iconography of Buddhist and Brahmanical Sculptures in the Dacca Museum*, pp. 112-13.

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probably portrays the scene of the marriage of Śiva and Pārvatī. If this suggestion is accepted, it will have to be regarded as the earliest representation of this highly interesting motif.

We may now pass on to the three-headed deity occurring on Ujjayini coins (Fis. 8) of Class 2, Varieties 1-*n*.[1] There is a wide divergence of opinion about his identification. Cunningham proposed to identify the figure as Śiva Mahākāla who had a famous temple at Ujjain and regarded it 'as a single evidence of Brahmanism' at Ujjain.'[2] The latter part of Cunningham's statement can no longer be regarded as tenable in view of what has been said above.In the Introduction of his catalogue,[3] Allan expresses doubts about the identity of this deity. He first proposes to identify him with the six-headed god Kārttikeya; though on the coins he is shown with three heads only; the remaining three heads being behind and therefore invisible are not represented. But at the same time he does not over rule the possibility of the figure being intended as Śiva in which case the plurality of his head would be indicated, though 'the absence of the trident or other symbol, of Śiva, and the fact that he has only two arms...is against this.' He next offers the alternative suggestion that the figure may represent both the deities, Śiva Mahākāla and Kārttikeya[4] or simply as Deity.[5] J.N. Banerjea, on the other hand, identifies the figure as that of three-headed Śiva.[6] It, however, appears more reasonable, to identify the multiple-headed deity as Kārttikeya. A study of the figures of Śiva seen on the punch-marked, Pahlava and Kushāṇa coins lends support to this view. As we have already seen, the single-headed diety appearing on some punch-marked coins may stand for Śiva. On the coins of the Indo-Parthian ruler Gondophernes we find only single-headed figure of the god. The first Kushāṇa chief to introduce the figure of Śiva on his money is Wima Kadphises. On his coins as also on those of the next king, Kanishka, Śiva is usually

1. *BMC*, AI, pp. 250-52, Pl. XXXVII; 18-22.
2. Cunnigham, *Coins of Ancient India*, p. 98.
3. *BMC, AI*, pp cxlii-cxliii,
4. Allan, *BMC, AI*, pp. 245, 250.
5. Ibid, p. 249.
6. J. N. Banerjea, *Development of Hindu Iconography*, p. 117.

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shown with a single head.[1] It is on the coins of Huvishka that we find Śiva popularly represented both as single-headed and three-headed.[2] It would thus appear that Śiva was at first represented with only one head and that the feature of the multiple heads made its appearance at a later phase in the development of Śiva's iconography. Śiva, therefore, could have hardly been represented with multiple heads on Ujjayini coins which are by general consensus assigned to the third-second century B.C. I feel, therefore, that the figure is intended to represent the six-faced (*shaḍānana*) god Kārttikeya.

It is true that the representation of this six-headed deity on these coins differs from that found on some Yaudheya coins of the second century A. D. where the difficulty of representing all the six heads of the deity has been overcome by placing them in two tiers of three heads each. It was evidently an outcome of considerable thought on the part of the artists who took a period of about three to four centuries in evolving this technique. The process began at Ujjayinī where three front heads were shown and the remaining three heads were left to be imagined; it ended with the Yaudheya coins where all the six heads are clearly visible, nothing being left for the imagination of the devotees.

Another interesting feature that deserves notice in connection with the representation of the *shaṇmukha* deity on the Ujjain coins is the presence of the Śiva's phallic emblem on the top of the tree surrounded by a railing, which seems to indicate that the two gods had come to be associated with each other as early as the third-second century B.C. and that this relationship was probably first conceived at Ujjayinī which, as we have shown, was already a strong-hold of Śaivism.[3]

Attention may now be invited to a few other symbols which appear to have a *Śaivite* association. It has, for example, been

1. After taking great pains J. N. Banerjea could find only one copper coin of Wima Kadphises the device on which was described by Cunningham simply as Śiva (Cunningham, Coins of the Indo-Scythians and Kushāṇs, Pl. XV, fig. 11), but 'seems to be polycephalous'. Vide *Development of Hindu Iconography*, p. 122 .
2. A. H. Wood III, *The Gold Coin-Types of the Great Kushāṇas*, pp. 27-9.
3. Nothing definite can be said about the symbol 'three human beings standing' found on some Ujjayinī coins, *BMC, AI*, Pl. XLIV, 22.

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suggested that the crescented three-arched hill, which appears not only on Ujjain coins (Class 2, Var. *i*) but is very frequent on the Mauryan silver punch-marked coins also, may stand for Śiva, who is sometimes described as *tri-śriṅga parvata*, with crescent on his head, *Śaśāṅka-śekhara*.[1] The trident (*triśūla*) on a pedestal[2] and what should be described as the double trident mark[3] must certainly be regarded as Śaivite marks; especially so as they are found associated with definitely Śaiva symbols, one with the single-headed Śiva and the other with the fragmentary anthropomorphic and phallic forms of the god. The latter mark, it may be noticed, frequently occurs on other series also, e. g. Sātavāhana, pāñchāla and Vishṇukuṇḍin, and is sometimes described as double *ya* symbol as it looks like two *ya* letters, one placed above the other. But in view of its definite Śaivite association on Ujjain coins it would be more reasonable to describe it as double trident. On some Eran (Uninscribed Var. *o*) and Ujjain[4] coins we find a group of four or five tridents (artistically shaped) placed around a circle. On the Eran coins in question there is an Ujjain symbol in the circle and two taurines in each trident, with the Ujjain coins show a dot in the circle. It may be mentioned in this connection that it was a common practice with the Indians to represent the weapons of the deities they worshipped. We have examples where a characteristic weapon alone stands for the god himself. Śiva, for instance, is the only deity represented on the coins of Wima Kadphises. But on the reverse of one type of his gold coins we find only combined trident-battle-axe-club instead.[5] There can be no doubt whatever that the trident-battle-axe in this case stands for the god himself. It is true that in ancient India votaries of different sects shared a common vocabulary of symbols, and in such cases it is difficult to be sure about the sectarian affiliation of the symbols in question. The trident, for example, may denote both the *triśūla* of Śiva and the Buddhist *triratna*. In such doubtful cases a definitely known religious context is an important deci-

1. J. N. Banerjea, *Development of Hindu Iconography*, p. 109.
2. Class 2, Var. *i*.
3. Class 1, Vars. *i-j*.
4. *JNSI*, XVII (II), Pl X 42. The symbol on the reverse Allan's class 3, var. *g* appears to be the same. It also occurs on the Ujjain coins of the Kasarwad hoard. Vide *JNSI* VIII, pp. 101 ff.
5. Wood III, *op. cit.*, p. 5, No. 13.

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sive factor. Ujjain being well known as a stronghold of Śaivism, the trident on pedestal and the double trident must be interpreted as Śaiva symbols.

Let us now see if the coins of Ujjain reveal symbols belonging to some other religious sect or sects also. On Class 1, Vars. *a* and *h*[1] an eight-spoked wheel (Fig. 9, *ashṭara-chakra*) is found in association with the Śiva-liṅga placed between two top branches of a tree in the railing. It also occurs along with the human figure of Śiva on Class 2, Vars. *d, e, g* and *k* and with the six-headed Kārttikeya on Class 2, Vars. *l-p*. On some other coins it is associated with the bull before tree in the railing (Class 5, Vars. *a-b*). This symbol is found alone on the reverse side of Class 7 of the inscribed Ujjain coins. Now, wheel is the symbol *par excellence* of Vishṇu and it occurs on the coins of the Vṛishṇi, Rājanyas[2] and on those of Vīrayaśas.[3] The combination of the Śaivite and Vaishṇavite symbols on these coins shows that side by side with Śaivism Vaishṇavism was also popular with some sections of the people and that the votaries of the two sects led a friendly and harmonious life at Ujjayinī in the 2nd-3rd century B. C. when these coins are believed by general consensus to have circulated.

Goddess Lakshmī seated facing, being sprinkled (*abhisheka*) by elephants standing on pedestals on either side, is figured on the obverse of Class 4 of Ujjain coins (Fig. 10-11).[4] The Gajalakshmī motif, i. e. Lakshmī standing or seated being bathed by an elephant on either side, is frequently met with on early Indian coins. It occurs on the early coins of Ayodhyā[5] and on those of the Śaka chiefs of North India.[6] Gajalakshmī motif is also found employed in the relief sculptures at Bharhut, Sanchi and other places. Lakshmī without the consecrating elephants also appears

1. *BMC, AI*, Pl. XXXVI. 17, 20, 21; XXXVI. 11.
2. J. N. Banerjea, *op. cit.*, Pl. II, fig. 7.
3. Allan, *BMC, AI*, p. 158, Pl. XVI. 4.
4. *BMC, AI*, Pl. XVIII. 24; XXXVI. 4-5.
5. Vāyudeva, *BMC, AI*, Pl. XVII. 8; Viśākhadeva, Ibid, Pl. XVI. 14-15; Śivadatta, Ibid, Pl. XLIII. 4, 5, 7.
6. Azilises, Whitehead, *PMC*, Pl. XIII. 332-33; Rañjubula, *BMC, AI*, Pl. XXVI. 12-13; Śodāsa, Ibid, Pl. XXV. 25; XXVI. 14-18, XLIII. 15, 17.

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on the coins af a number of early indigenous[1] and alien rulers[2] of North India. The representation of this goddess on the money of all these rulers with diverse religious leanings indicates her non-sectarian character, a conclusion reinforced by her appearance in early Buddhist art. As the goddess of royal fortune (*rāja-lakshmī*) she was worshipped by the votaries of various religious sects as she is worshipped even now. And as such her appearance on the Ujjain coins has no sectarian significance.

At this early period Śaivism appears to have been popular at other places also. The 'standing male figure with halo behind head and with arms stretched, right hand lowered and the left raised up' appearing on a coin of Māhishmatī[3] most probably represents Śiva, especially because the figure resembles that on some Ujjain coins where Śiva is shown with his left hand raised up and the right one resting on hip[4]. We have already seen that on one coin this figure is found in association with the *triśūla*[5] which clearly establishes its identity with Śiva. A coin from Tripurī shows a human figure standing under an arched canopy.[6] It is difficult to decide the identity of the divinity; he may or may not be Śiva. The coins of the city of Bhāgilā hailing from near about the banks of the river Narmadā in the Hoshangabad district of Madhya Pradesh show among others river with fish, tree with large leaves in the railing and a prancing bull in high relief.[7] Accord-

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1. Gomitra II, Ibid, Pl. XXV. 1-2, 4-7; XLIV. 6; XLV. 1; Brahmamitra, Ibid, Pl. XXV, 12-4; Dṛidhamitra, Ibid, XLIII, 16; Sūryamitra, Ibid, Pl. XXV. 17-21, XLIV, 9; Vishṇumitra, Ibid, Pl. XXV. 15-16; Purushadatta, Ibid, Pl. XXIV. 1-4, etc. All these rulers belonged to Mathurā.

   The obverse device of Class 2, Vars. *p-q* of Ujjain coins is not quite clear. Allan describes it as 'Female deity, Lakshmī seated facing on lotus'. N. C. Ghosh, however, disputes this identification and thinks that in all likelihood these coins portray the figure of Śiva in a sitting posture. Vide *JNSI*, XXIV, pp, 24-26.

2. Rañjubula, BMC, AI, Pl. XXVI. 12-13; Śodāsa, Ibid, Pl. XXVI. 14-18; XLIII. 15.17; Hagāmasha and Hagāna, Ibid, Pl. XXVI. 1-2, 6; *JNSI*, VIII, Pl, IIC, 5.
3. *JNSI*, XVII, Pt. II, pp. 94-5, Pl. VIII. 5-6.
4. Ibid, Pl. X. 44, 45.
5. Ibid, Pl. X, 45.
6. Ibid, XVI, p. 72, Pl. II, 15-6.
7. Ibid, XIV, Pl, II, 13-17.

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ing to S. L. Katare, the tree probably represents the *vaṭa* under which Śiva performed austerities and the river is probably the Gaṅgā and the coins in question therefore 'so prominently indicate the Śaiva influence'.[1] Whatever we might think about Katare's identification of the tree and the river, the prancing bull, once a theriomorphic representation of Śiva and later his *vāhana*, leave no doubt whatever about the popularity of Śaivism in the region where these coins have been found in the second-third century B. C.[2]

A close study of the numismatic evidence leads us to the conclusion that like Avanti (W. Malwa) eastern Malwa was also a stronghold of Brahmanical religion. Some of the Eran coins show on the obverse the phallic emblem of Śiva placed between the two top branches of a tree in the railing (Uninscribe, Vars. *d-f*, *h-j*, *m*, *n*), while one variety (Var. *c*) shows this symbol coupled with the bull looking at it (Fig 12). These symbols have to be interpreted in the same way as those found on the Ujjain coins. They indicate the popularity of Śaivism in eastern Malwa.

The lotus flower has attracted the utmost attention of Indian artists of all ages and has been used by Brahmanical as well as non-Brahmanical sects for their own purposes and in different meanings. In Brahmanical mythology it has been associated with Vishṇu and Sūrya. But a study of the evolution of the iconography of Vishṇu reveals that lotus was not associated with him before the Gupta period. It was for the first time in the Gupta age that Vishṇu came to be represented with the lotus flower in one of his hands. Some four-armed Vishṇu images of the Kushāṇa period are preserved in the Mathurā Museum. In them, Vishṇu is shown with *amṛita-ghaṭa*, *chakra* and *gadā* in three of his hands, the right natural hand being held in the *abhaya* or *śāntida mudrā*.[3] The usual form with *śaṅkha*, *chakra*, *gadā* and *padma* developed in the Gupta age. But even in the Gupta age it had not become universal

1. *JNSI*, XIV, I, p. 13.
2. Ibid, p. 57, Pl. II, 5.
3. V. S. Agrawala, 'Brahmanical Images in Mathura Art', p. VII, Nos. 87, 912, 1229; *JISOA*, V, p. 124, Pl. XIV. 2. The form next to be evolved, in the Kushāṇa period, was that in which the god is shown with conch, wheel and mace in three of the hands, the right natural hand being in the *śāntida mudrā*.

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as will be evident from the fact that Varāhamihira who lived in the sixth century A. D. does not mention the lotus flower as an attribute of Vishṇu (*Bṛihat-samhītā*, LVII. 31-36). On the other hand, lotus has been associated with the Sun god from the very beginning. In the plastic art of the Kushāṇa period he is represented with a dagger in one hand and a cluster of lotuses in the other,[1] while in the Gupta and later sculptures he is shown with lotus flowers in both the hands. It is quite probable, therefore, that the eight-petalled lotus occurring on some Eran coins[2] may symbolise Sūrya, as suggested by J. N. Banerjea.[3] It is interesting to note in this connection that this symbol occurs on those coins also which show the Śiva-liṅga. We may conclude, therefore, that during the three centuries preceding the Christian era Śiva and Sūrya were being worshipped side by side.

That Brahmanism was dominant at Eran during this period is also indicated by the fact that in the numerous votive inscriptions at Sanchi and Bharhut there does not appear even a single donor from this ancient city. Even in later times Eran continued to be a stronghold of Vaishṇavism as revealed by early inscriptions and remains of monuments found there. It is interesting to note in this connection that during the extensive archaeological excavations at Eran conducted by the University of Saugar not a single evidence of the currency of Buddhism has been found while considerable evidence of the popularity of Brahmanism has been brought to light.

Vidiśā has been an important centre of the cult centring round Vāsudeva-Kṛishṇa at least from the second century B. C., if not earlier still. The presence of the remains of a Vaiṣṇavite character supports it; the Besnagar Garuḍa Pillar Inscription of Heliodorus proves it. It is, therefore, interesting to note that some coins bearing the name of the city on the reverse, now preserved in the Mahant Ghasidas Memorial Museum, Raipur (2957-2977), contain on the obverse a *chakra* of eight spokes, sometimes within

1. *JISOA*, *V*, Nos. D. 46, 269.
2. Uninscribed Vars. *d*, *j*. It may be noted in this connection that on some Eran coins lotus occurs as the sole symbol. Vide *JNSI*, XIV, pp. 60-67. See also *JNSI*, XVI, pp. 61-62.
3. *Development* of *Hindu Iconography*, pp. 137-38.

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a circle[1]. The numismatic evidence thus corroborates what is already known from the inscriptional and artistic evidence.[2]

Another symbol which seems to be of some religious significance is the so-called triangle-headed standard. It occurs on some Ujjayinī coins, sometimes in its natural vertical position[3] and sometimes horizontally placed,[4] while on several varieties of Eran and Vidiśā coins it is placed within a railing and is flanked by an umbrella on either side.[5] The last-mentioned feature shows that it was an important religious symbol held in high veneration by the people It seems, therefore, plausible to hold that the symbol actually represents *Indra-yashṭi* (Indra's flag-staff) the mode of fashioning and propitiating which is described in a number of early texts.[6]

In this connection reference may be made to the so-called Ujjain symbol also. The fact that this symbol, with numerous variations, makes its appearance on coins belonging to various series[7] has rendered the nomenclature 'Ujjain Symbol' untenable. Various interpretations of this symbol have been suggested. It has, for example, been suggested that the four arms of this symbol stand for the four major directions and that the symbol signifies the conquest of the four quarters upto the ocean.[8] Sky Symbol has been suggested as an appropriate name for this symbol.[9] To me it seems more reasonable to take it as representing *vajra*, an attribute of Indra; in which case it would vouch for the great popularity of Indra worship at this early period.[10] Alternatively, it may be taken to be a conventional form of *svastika*.

1. *JNSI*, XXIII, pp. 307-308.
2. Another religious symbols which may have some cult significance is the lotus (*ASI, AR*, 1913-14, pp. 221-23). As we have seen above, it may have something to do with Sun worship.
3. *BMC, AI*, Pl, XXXVII. 7, 19, 12; XIX. 6, 8; p. 260.
4. Ibid, Pl. XXXVII. 1.
5. Ibid, pp. 140 ff; *ASI, AR*, 1913-14, pp. 221-23. The triangle-headed standard is found on several series of coins.
6. *Kauśika-sūtra*, 140; *Mahābhārata*, (Cr. Ed.), I.57. 1-29; *Yājñavalkya-smṛiti*, I. 14: *Bṛihat-saṁhitā*, Ch. XLII.
7. East Eran, Ujjain, Sātavāhana, Tripurī (*JNSI*, XXI, p. 187).
8. Sivaramamurti, *Numismatic Parallels of Kālidāsa*, p. 10.
9. *JNSI*, XVI, p. 62.
10. I owe this suggestion to K. D. Bajpai.

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Among the animals occurring on our coins we have already seen that the bull is probably intended to represent the god Śiva theriomorphically. Two other important animals occurring on the Eran, Vidiśā and Ujjain series of coins are elephant[1] and horse.[2] It is difficult to say whether the elephant here stands for Indra. But there is nothing improbable in it.[3] Similarly, the horse may indicate the popularity of the politico-religious rite *aśvamedha* which was so very popular with the princely families.[4]

There are a number of other symbols which occur on coins very frequently. One such important symbol is tree in the railing. Numismatists of the older generation were inclined to recognise in it the tree of the Buddha's enlightenment (*bodhi-vṛiksha*).[5] But in ancient India tree-worship was common among all the people irrespective of the religious sects to which they were affiliated. They were believed to be an abode of the spirits. Then there existed the belief in the *kalpa vṛiksha* or wish-giving trees.[6] The tree in the railing, therefore, does not seem to have been possessed of any sectarian significance. *Svastika*, taurine, river with fish the six-armed symbol, etc. are some other symbols which do not seem to have had any definite sectarian significance. There are a number of other symbols occurring on these coins about the significance of which nothing definite is known.

From the foregoing study we may conclude that Brahmanism was dominant all over Central India in a few centuries before and after Christ. Ujjayinī and Māhishmatī and some other places were strongholds of Śaivism, though other Brahmanical sects had also some followings. Eastern Malwa was a stronghold of Vaishṇavism; but Sūrya and Śiva also claimed a large number of

1. Eran Uninscribed Varieties *e, g, h, l*; Ujjain-Class 9, Varieties *b-e*; Class 7; Vidiśā- *ASI, AR*, 1913-14, pp. 221-23.
2. Eran Uninscribed Varieties *e-g*; Ujjain *JNSI*, VIII, pp. 101 ff. Vidiśā- *ASI, AR*, 1913-14, pp. 221-23.
3. On some coins of Eukratides and Antialkidas Indra, disguised as Zeus, is associated with the forepart of the elephant. See, *Development of Hindu Iconography*, pp. 148 ff.; *JNSI*, 1950, pp. 7-8.
4. Cf. Sivaramamurti, *op. cit.*, p. 10.
5. Cunningham, *Coins of Ancient India*, pp. 97, 100.
6. V. S. Agrawala, *Studies in Indian Art*, pp. 47-52; *Bhāratīya Lokadharma*, pp. 76 ff.

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votaries. Thus while the numismatic evidence shows the great popularity of Brahmanism, the monuments at Sanchi and Bharhut and the donative epigraphs engraved on them leave no room for doubt that Buddhism had also some following. Some of the donors who contributed towards the construction of these structures hailed from Vidiśā and Ujjayinī also. But these were only isolated pockets of Buddhism surrounded by great flourishing centres of Brahmanism around them.

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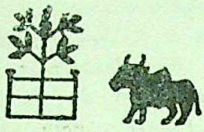

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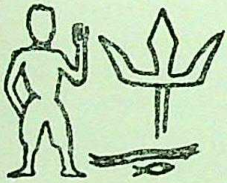

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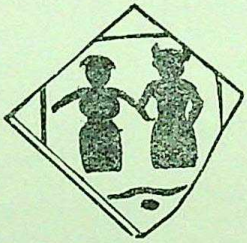

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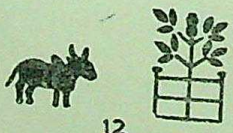

12

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Minting Techniques of Central Indian Local Coins

Deenabandhu Pandey

The Local Coins of Central India are noticed mainly in copper and a few in silver, bronze, brass and lead also. Only one coin in silver belongs to Ajadeva or Ajadatta, the ruler of Ujjainī. Brass and lead are also represented by single specimens belonging to Ujjainī and Prakāśaśiva Sevaka respectively. The bronze coins are three in number, attributed to Eraṇa, Tripurī city and Dīmabhāga a ruler of the Sevaka dynasty. These coins are struck in several denominations and mainly in three shapes. viz. round, square and rectangular.

The Central Indian Local Coins show not more than three minting techniques adopted by the issuing authorities. The technique which was mainly used is die-striking on semi-molten pieces. The other two were the punching of marks on metal pieces and casting from the moulds. In general, the Local Coins are die-struck. It seems that authorities preferred die-striking technique and they abondoned the punching technique subsequently. But, it is also inferred that punching and die-striking techniques were simultaneouly used. Die-striking was a development in Indian coinage as it saved labour of punching and also gave a better appearance to the coins. This technique was gradually discovered by the mint masters as it is clear from the Eraṇa and Ujjainī punch-marked coins. The Kasarwad hoard of Ujjainī coins shows that the punching technique was used, but overlapping of symbols is rare; symbols are in deep incuse and seem to have been arranged in a die which was impressed on the flank when the metal was in a semi-molten condition. The moulds, it seems, though the Mauryan cast coins were in circulation in Central India, came into use at a later date. In Ujjainī this technique was used before the inscriptions were introduced on the coins. The technique was also used for making the city coins of Tripurī and by Dīmabhāga a ruler of the Sevaka dynasty.

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Thus it is clear that Central Indian Coinage travelled from punching technique to casting through die-striking. It is generally held that the technique of casting was a foreign method employed for the production of coins in India, for the first by the Mauryas nearly in the whole of their kingdom—if the attribution of early cast coins to the Mauryas is taken as correct. But the local rulers of Central India favoured punching, die-striking and then casting, about 200 years after the Mauryas. The indigenous mint masters might have discovered this technique by trial-and-error method as they already knew die-striking. This suggestion is based on the basis of comparison of foreign and Indian cast coins. The Indian casting technique was an inferior one. Taxilan coins which are known to have been influenced by foreign coinage, also show better execution than indigenous cast coins. Casting was prevalent in other localities of Northern India also. The coinage of all these localities shows an inferior technique. Such things do not neccessarily show the outsides influence, they may show entirely local developments of the areas concerned.

For the smaller denominations, the smaller die has been used to strike the symbols. The coins of light denominations weighing 3 grs. must have been manufactured by a process which had been an exacting one, and have hardly paid the labour involved in its manufacture.

Double striking and counter striking of the coins are also noticed. A wrong and light impression of die would have necessictiated the striking for the second time on the same coins. Counterstruck coins also attest the use of die-striking technique but counter striking is done always on a coin already struck. Such strikings must have needed greater force. In fact counter-striking is the same as punching of some symbol on a coin.

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On the Local Coins of Maheshwar and Navdatoli Excavations

N. Ahmad

The excavations and explorations at Maheshwar and Navdatoli, which are situated on the northern and southern bank of Narmada, about 50 miles south of Indore, yielded a good number of coins[1]. Out of 37 uninscribed cast and local coins, 12 are stratified and 25 unstratified. Among the stratified specimens, except one which is found from Period IV, all of them come from later periods (Period V onwards).

Only one coin belonging to Ujjaini comes from a layer of Period IV, i.e. NVT, III, 4. As this period is characterised by the occurrene of N. B. P. Ware, it is dated from 400 B. C. to 100 B.C.[2] with the assumption that this pottery "penetrated southwards across the Vindhyas about 400 B. C."[3]

However, the earliest and the top layers of the chalcolithic period at Maheshwar and Navdatoli dated to 3503 ± 128 and 3294 ± 125 by C—14 and on archaeological ground between c. 1500 to 1000 B. C. respectively.[4] And on the basis of these dates Sankalia thinks that the deepest layers of the historical period without the N. B. P. may be dated from 800 B. C. to 600 B. C.[5] The N. B. P. ware first occurs[6] in MH-

1. Sankalia, H. D., Subbarao, B. and Deo, S. B. *The Excavations at Maheshwar and Navdatoli*, 1958, pp. 68 ff.
2. Ibid., p. 22.
3. Ibid., p. 19.
4. Ibid, slip pasted against p. XII.
5. Letter no. 701-14044 dated 20th March 1959, quoted by P. L. Gupta, *JNSI*, XXI, II, p. 119.
6. Here I am humbly pointing out some discrepancies. Sankalia writes that "the N. B. P. occurs in a very small number. Out of 20 pieces one each is found in layers 12 and 16 of Tr. II at Maheshwar. It is from these that the Punch-marked coins Nos. 1006 and 1036 were

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SR[1] II. 16, III. 5 and NVT.[2] III. 5. Thus it is apparent that the excavator assigns two centuries for the accumulations of the deepest layers which have more than 4 feet thickness in all these three trenches. It is also visualized that, in his view, this pottery entered, at this southern plain, in the sixth century B. C. But this supposition is a little debatable. Hence, at most, the time for its introduction in this region may be regarded to be 5th century B. C. The upper layers of Period IV, with the commencement of N. B. P. have nearly the deposit of 10 feet in MHSR II and III.

The Period V is dated from 100 B. C. to 100. A. D. but in the table of cultural sequence it is labelled from 100 B.C. to 200 A. D. The deposit of this period, which is represented only in MHSR II is also of 10 ft. thickness. It is also to be noted that no cultural heitus has been marked in between the layers of periods IV and V. Hence the upper part of Period IV with the commencement of N. B. P. and Period V may be roughly dated from 500 to 150 B. C. and 150 B. C. to 200 A. D. respectively.

The coin uuder discussion, (No. 49 - NVT, III. 4) is found from phase 2 of Period IV. This phase is followed by another phase[3]. Therefore, the phase 2, yielding this coin, may be assigned to 3rd century B. C.

Two Ujjaini coins also occur in Period V—MHSR. II. 12. It shows to the continuity of Ujjaini money in this succeeding period. Two uninscribed copper cast coins—one from layer 11 and the other from layer 8 of MHSR—and one Taxila coin—found from layer 9 of trench II of MHSR—also occur in this period. But the predominant numbers and the occurrence of

found." Whereas B. Subbarao points out to the occurrence of N.B.P. in three layers 16, 14 and 12. Then in the section of MHSR, II it has been shown in layers 15, 13, 12, 11 and 10. S. B. Deo and Z. D. Ansari, in the chapter of pottery, write to its "earliest occurrence in layer 16 of Tr. II at Maheshwar which, along with the find of Punch-Marked coins is useful in dating."

1. Maheshwar.
2. Navdatoli.
3. Ibid, p. 26

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one specimen of Ujjaini coinage in Period IV indicate them to have been current at this place. Uninscribed copper cast coins, though some of them occur in the stratified horizons, whether originated here or came during trade, is not certain ; but the latter is more possible. The Period V yields 5 Ujjaini and 1 Taxila coins. It may be inferred that in this period, too, the Ujjaini currency continued to be circulated. A uninscribed cast coin is found from Period VII, i.e. Muslim-Maratha Period, only indicates it to be a lonc survival[1].

From Maheshwar two coins bearing the legend *Mahismati* are found, and that too from the surface. Mahismati is identified by Pargiter[2], Fleet[3], Mirashi[4] and Raychaudhuri[5] with Omkar Mandhata and by Diskalkar[6], Pandya[7], Dikshit[8], Karandikar[9] and Sankalia[10] with Maheshwar whereas by Cunningham[11] with Mandla. The evidence which goes for the identification of Maheshwar with Mahismati, is the occurrence of the metalic pieces with this name at this place. But the numismatic evidence does not help much in identifying Maheshwar with Mahismati, as no coin occur in the excavation. Therefore, it may not be said, too, that Maheshwar was a city state. At this stage, it can be only conjectured that, after the decline of Mauryan empire, Ujjaini, when asserted its independence, extended its power upto this place.

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1. In the Table of cultural sequence, the coin-occurrence is marked in layers 7 and 10 of tr. II MHSR, of but no coin is found from those layers.
2. *The Markandeya Purana*, Translation, *Bibliotheca Indica* (Calcutta, 1914), p. 333, note 4.
3. *JRAS.*, 1910, pp. 444-47.
4. *CII.*, IV, p. 18
5. *Political History of Northern India*, Calcutta, 1950. p. 129
6. *Proc. Indian History Congress*, 1946, pp. 61 ff
7. *Journal of the Gujarat Research Society*, Vol., VIII, pp. 135-38
8. *Proc. Indian History Congress* (Calcutta, 1939) pp. 141 ff
9. *Ancient India* (Ed. by Vishnu R Karandikar) Vol., I April 1936, pp. 2-3
10. Sankalia op. cit., pp. 2-15
11. *Ancient Geography of India*, p. 559

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Table No. I

In this chart the coins found from stratified and unstratified horizons are mentioned.

Coinage	Stratified	Unstratified	Find Spot		Total
			Maheshwar	Navdatoli	
Uninscribed[1]	3	...	2	1	9
Copper Cast Coins	...	6	5	1	
Local Coins[2]					
Taxila	2	...	2	...	28
	...	4	4	...	
Ujjaini[3]	7	...	6	1	
	...	13	11	2	
Mahismati[4]	...	2	2	...	
Total	12	25	32	5	37

1. On the pages 68 and 69 of the report, 7 uninscribed cast copper coins are said to have been discovered. But on page 71 two more uninscribed copper cast coins nos. 861 A and 861 B of 'Shaikh's collection', picked up from the surface of Maheshwar, are included.

   One coin no. 4917 is reported to have been found from layer 6 of Navdatoli's trench IV (op. cit., pp. 66-72). Stratigraphically this layer occurs in Period III (See, op. cit., p 27 and Fig. I, facing p. 27) which is Proto-historic Period (op. cit., pp. 20-21). Sankalia himself writes : "it should be noted that no coin was found in the chalcolithic layers at NVT or at MHSR V" (op. cit., p. 27). Therefore, this coin may not be included in the Stratified Category.

   On p. 67, out of 7 uninscribed copper cast coins, 1 from Navdatoli and 6 from Maheshwar are noted. But on an earlier page, the coins found from Navdatoli and Maheshwar are reported to be 2 and 5 in numbers, respectively.

2. The local coins (Sankalia calls them tribal) amounted to 27, on page 67, are said to have been found, but in the text, 28 coins are described.

(Contd.)

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The excavator, on page 67, says that among 27 local coins, 25 comes from Maheshwar and 2 from Navdatoli ; but the actual number of the coins found from the latter place is three.

3. The Ujjaini coins 18 in number, on the same page, are claimed to have been obtained, but in the coin-list(pp. 66-67),21 Ujjaini coins are recorded. It is also to be noted here that in this list, the coin no. 490 is mentioned twice. Coin no. 784 of this list belongs to Mahismati (p. 78). Therefore the total number of the coins of this list comes to 19. In the text (p. 78) one coin with Serial No. 49, found from a stratified layer, is described, though it is not noted in the list. Thus the actual number of the coins, obtained from these sites, is twenty.

Here, some discrepancies may also be noted. In the list two coins are given the same number, 57 F. The coin nos. 57 and 57 F written at the last in the list are numbered in the text as 57 J and 57 K. The coin nos. 63a and 120 A of the list are written as 1063a and 120, respectively, on the pages 73 and 74.

4. The excavator says, on page 67, to have got three coins of Mahismati. One coin with Serial No. 49, in view of Trivedi, is similar to one which has the legend *Mahismati* (*JNSI*, XVII, p. 96). But Sankalia thinks that "this is most unlikely, first the sizes and weights differ considerably. Secondly, even the symbols are not identical" (op. cit p. 78). Hence this is included in the coinage of Ujjaini.

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Table No, 2

The stratified coins found from various layers, are noted in this table to have a detailed and clear picture.

Coinage	Site	Trench	Layer	Period	Number of Coins
Uninscribed Copper Cast Coins	Maheshwar	II	11[1]	V	1
		,,	8	,,	1
	Navdatoli	III	2	VII	1
Taxila	Maheshwar	II	9	V	1
	,,	,,	5	VI	1
Ujjaini	,,	,,	12	V	2
	,,	,,	5	VI	2[2]
	,,	,,	4	,,	1
	,,	I	4	,,	1
	Navdatoli	III	4	IV	1
Total	...	...	...	...	12

1. In the chart of 'cultural sequence', the occurrence of coin is not marked in layer 11 of Maheshwar's trench II.
2. On p. 66, the coin no. 993 is said to have been found in layer 15 of Maheshwar's trench II, but on p. 76, it is noted to have occurred in layer 5.

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Dating of Local Coins on the sites of Godavari-Pravara System

T. N. Roy

Uptill now only three sites namely Nasik (situated on both the banks of the river Godavari), Jorwe and Nevasa (situated on the Pravara), all lying in Maharastra, have been excavated by the Deccan College Research Institute, Poona. Jorwe is a one period Chalcolithic site and hence the question of getting any coins in such an early level at the site does not arise. But Nasik and Nevasa have provided a fairly large number of local coins and hence their stratigraphic significance in dating are discussed below.

Out of the eight[1] coins recovered from the excavations at Nasik, six (numbers 860, 5060, 5561, 483, 189 and 199) can be loosely classed under the term local. Coin number 860 bears on the obverse elephant and Ujjain symbol and on the reverse again Ujjain symbol and a part of railing. The identification of coin number 5060 is doubtful as it bears on the obverse lotus leaf like incisions and the reverse is blank. But both these coins have been reported, respectively, from layers 2 and 3 of sub-trench Ie of trench M. G. E. N. (IV). These layers according to the corelation chart[2] of the various trenches at the site, can be assigned to Muslim-Maratha period. The coins, therefore, are also assignable to this period as once the layer is dated, any object found in its association is supposed to be more or less of the same date. But such a late dating of the above two coins would be totally inconsistent with the supposed date of the local coins, so far, arrived on the basis of the symbology. Such a contrast in these two methods of dating (the external and the internal) has to be explained, particularly, here by the

1. H. D. Sankalia and S. B. Deo, *Report on the Excavations of Nasik and Jorwe*, pp. 30-33, coin numbers 546 nd 36 are Mughal and Maratha coins respectively. Coin number 86 has been attributed by Sankalia to Satakarni I but unless its identity is established, it may be treated as local.

2. Ibid, p. 20.

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excavators[1] (as the layers from which these coins are reported have been dated fairly late), otherwise the importance of stratigraphical dating will loose the faith of those who date the coins only on the basis of typology. Perhaps the reasons of the provenance of these coins in much later layers has to be explained within the excavation itself. If we look to the nature of layers 2 and 3 of sub-trench Ie (in which the above two coins have been recorded), we notice that there are one of the series of oblique[2] layers, sloping on one side of the trench. Layer 2 consisting of brownish earth and brickbats was also irregular in thickness. Layer 3, having brown earth full of kankars was nearly 1.22 meters in thickness. Layers 2a and 3a which constitute almost one part of the above layers were also ashy in deposits. The irregular nature, ununiform thickness and the composition of these layers shows that they do not represent the regular occupational strata at the site. Such a deposit even if it may be occupational, but devoid of any structural[3] activity, loses most of its dating value. It is therefore, desirable to leave these coins and these strata in which they have been reported for fixing either any date to coins or to strata themselves. The evidence, however, indicates the provenance of such early coins on the site, particularly coin number 860[4].

Coin number 5561 (almost blurred) has been reported from layer 2, sub-trench Ik, trench M. G. E. N. (IV). This layer again falls within the Muslim-Maratha period. Its presence in the late levels of the site can only be explained by the fact that

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1. Writing about only coin number 860, the excavator mentions that the stratigraphical significance of the coin of Satakarni I (M) is little, since it coms from a much later layer, where, it may have gone to various reasons, Ibid, p. 33.
2. The excavator thinks that the nature of these layers shows that the mound in ancient times had a different contour as compared to its present one. But the nature of the layers in all probability represents the 'Talus' of the mound and hence for all practical purpose of the dating should be considered as unstratified.
3. To site an example, a coin of Emperor Akbar found at the site in M. G. E. N. below the wall of Period IV (Muslim-Maratha) safely be relied upon in dating the wall.
4. For other such coins see *JNSI*, IV, pp 25-26 and *JNSI*, XIV, Pt. I, pp. 54-55.

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the whole of sub-trench I k seems to be badly disturbed in the making of a modern road[1] and hence the startification revealed should not be relied upon in determining the date of the coin or the stratum.

Coin number 483 having blurred obverse and on the reverse with traces of Ujjain symbol has been recorded from layer 3 of sub-trench D, trench M. G. N(I). This layer according to the chart is also assignable to the earliest phase of the Muslim-Maratha period but is again not of importance in dating as it has yielded mixed stuff including even the Northern Black Polished Ware. Secondly, Period III is not represented in this trench and, therefore, overlapping of the antiquities between layers of Period II and Period IV cannot be altogether ruled out, particularly when layer 3 of Period IV lies immediately over layer 4 of Period II.

The evidence of all the above four coins is of nonstratigraphical value but their provenance to such a late levels at the site can thus be viewed.

The remaining two are, round uninscribed copper cast coins, coin number 189 bears swastika with curved and some other symbols, while coin number 199 having two semicircular raised signs and probably a tree in railing on the obverse, has a blank reverse. Both these coins were found in layer 4, respectively, of sub-trench B and sub trench G, of trench M. G. N (I). This layer is compact, well stratified and contains about 10[2] sherds of the Northern Black Polished Ware and few inscribed sherds. Even then the layer was not taken into confidence for the purpose of dating the above coins found in it. Instead the excavator says[3] that since coins of these type have been dated between 3rd to 2nd Centuries B. C. by Allan, it, will be justified to date layer 4 to this period. The layer was, therefore, assigned to Period II B. dated in between 200 B.C. to 50 A.D. The coins will naturally be placed in between 200 B. C. to 50 A. D. But the possibility of suggesting

1. Sankalia and others, op. cit, p. 17.
2. Ibid, p. 11.
3. Ibid, p. 33.

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a slightly earlier date to this period cannot be altogether ruled out, Period II has been divided into Sub-Period IIA and III, dated respectively from 400 B. C. to 200 B. C. and 200 B. C. to 50 A. D. There is a definite overlapping in the antiquities of the Sub-periods IIA and IIB and the Sub-period IIB actually represents the upper phase of Period II. To assign a difference of 200 years (400 B. C.-200 B. C) inbetween the lower and the upper layers (as there are only two layers 5 and 4 which constitute respectively the deposits of Sub-period II A and II B) of the same cultural deposit will be an anachronism, particularly when there is definite signs of the overlapping of the antiquities inbetween two strata. The Northern Black Polished Ware which can tentatively be dated round about fourth century B. C. in the Deccan[1] survived well in layer 4. The negative evidence of the inscribed[2] sherds having certain symbols of the early copper coins in the levels assignable to 400 B. C. to 200 B. C. (although not a single coin was recorded from this level) at the site, also helps in pushing back the date of the Sub-period IIB. Then Allan while limiting the time bracket of these coins to 3rd-2nd century B. C., does not rule out the possibility of assigning these coins even to the early part of the 4th century B. C. for he said that these coins are usually found on sites which yield punch-marked

1. In the Gangetic valley which is its epicentre, the origin of the Northern Black Polished Ware is supposed to be inbetween 6th to 5th Century B. C. It should, therefore, be slightly late in the Godavari-Pravara Valley, south of the Narmada.

2. In all the twelve inscribed sherds which have been illustrated in the report. Sherds numbers (a), (b), (c), (d), (f), and (g) should be stratigraphically assigned to Muslim-Maratha period and hence can be discarded out in the present context. Their presence in the late levels, however can be similarly explained. Sherds number (e) and (h) can be placed in Period III dated from 200 A. D. to 50 A. D. while sherd number (i) in Sub-period II B. But sherd numbers (j), (k) and (e) are stratigraphically from Sub-period IIA dated from 400 B.C. to 200 B.C. Although no coin has been reported from this level (Period II A) but the above sherds reported from this level bears svastika, taurine or ma-like figures which occur definitely on early cast copper coins. These symbols or letters are in characters of the 3rd century B. C. to 2nd century B. C. Unless we presume that these symbols were copied from the potteries on the coins, it is difficult to explain their provenance in an earlier context than the coins.

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silver coins and are, therefore, of the same period.[1] The stratigraphic evidence at the site, therefore, hints that the lowermost limit of 200 B. C. assigned to sub-period IIB and hence also to coins found at the site can be pushed back by about a century or half a century more i. e. the earliest limit of these coins at the site should be somewhere inbetween 300 to 250 B. C.

Nevasa executed about four years after Nasik, yielded[2] twenty pieces of square cast coins, 3 round copper cast coins and seven die-struck tribal coins (both Ujjayini and Eran-like). Out of this only six have been illustrated[3]. According to the details of the trench and the stratum, rectangular copper coin number 4375 bearing Ujjain symbol on the obverse (other symbols effaced) is the earliest in date. It has been reported from strata 4 of trench Y and hence can be assigned to Period IV dated from 150 B. C. to 50 B. C. Slightly later can be ascribed squarish copper Eran-like coin (number 1252) which has been recorded from the top layer of Period IV. Coin number 4363 bearing on the reverse Ujjain symbol and tiny circular copper cast coin number 1420 can be placed somewhere in the middle of Period V dated from 50 B.C. to 200 A. D. The remaining two squarish copper cast coins, numbers 2135 and 2353, should also be from Period V. Stratigraphically, therefore, according to the excavations, the time bracket of the local coins at Nevasa should be inbetween 150 B. C. to 200 A. D.

There is not much to be discussed about the later limit of these coins at the site as the chronology assigned to Period IV date from 50 B. C. to 200 A. D. (on which basis the later limit of the coin has been fixed) is securely dated[4] by the provenance of several datable potteries like Megarian ware, Rouletted ware, the amphorae, painted Andhra ware and several coins of Gautamiputra and Yajna Satakarni, found in it. Radio-carbon date of round about 104 A. D. for the charred grains from a soak-pit of this period also almost agrees with the above date assigned by the

1. Allan, J., *Catalogue of coins of Ancient India*, p. xxv.
2. *From History to Prehistory at Nevasa*, pp. 164-167.
3. Coin numbers 1579 and 1224, though, not illustrated but have been just referred without giving the details from which trench and stratum they were recorded.
4. *Nevasa*, p. 69.

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excavations. But the earliest date of 150 B. C. assigned to Period IV and, thereby, also to the local coins, needs reconsideration in view of the recent evidences of the date of the Northern Black Polished Ware in the Gangetic Valley. Discussing about the chronology of Period IV in his report the excavator writes 'The date of the N. B P. in the Deccan has been a matter of serious thought in recent years. Whereas it is dated to 5th-4th century B. C. in the north, it will not be proper to assign it to exactly the same period in the region south of the Narmada as we have at several sites, as even at Nevasa, many degenerate copies of the original steel-blue variety. This is further supported by the association at Nevasa of Siri Satavahana coins which cannot be assigned to the founder of the dynasty, but may be tentatively put to 2nd-1st century B. C. Similar is the case of the so-called silver-plated punch-marked coin. At the most we can put it to late Mauryan period. On the basis of this evidence, it may not be incorrect to date the beginning of the habitations of Period IV to the first half of 2nd century B. C. The dates of the Satavahana and silver plated punch-marked coins may be left for the time being. But the earliest date of the Northern Black Polished Ware in the north according to the present concensus should be inbetween 6th to 5th century B. C. c[1]. Compilation of the various radio-carbon dates from the different N. B. P. sites also give a time-bracket of 530 B. C. 105 A. D.[2]. Out of the four[3] N. B. P. Ware sherds reported from the excavations at Nevasa, three are from both the strata of Period IV (dated from 150 B.C. to 50 B.C.) and the fourth one from an still earlier horizon (from the weathered horizon lying inbetween the Chalcolithic Period III and Period IV)[4]. Their description, gray core, steel blue polish and original surface show that they are not degenerate variety

1. The writer has dated the earliest or Proto-N. B. P. Ware phase at Prahladpur (Distt. Varanasi) to round about 600 B. C. to 500 B. C., the middle phase to about 500 B. C. to 150 B. C. and to late phase of the N. B. P. Ware to round about 150 B. C. to 50 B. C.
2. S. P. Gupta, *C-14 dates determining the chronology of N. B. P. Ware.*
3. *Nevasa*, p. 259
4. The excavators of this report (page number 69) mention that at Nevasa, we get a degenerate copies of the original steel blue variety while at another place (page number 259), he describes these sherds as of standardised fabric.

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of the so called N. B. P. Ware but are themselves standardised specimens. If it is so, it will be unjustified to give such a late date of 150 B. C. to the N. B. P. Ware associated levels at Nevasa. How could any body imagine that the knowledge of the manufature of the N. B. P. Ware was not transmitted for 450 to 350 years (600 B. C.—170 B. C. or 500 B. C.—120 B. C.) from the Gangetic valley to Godavari-Pravara valley. Even if it merely shows contact, how could we believe that a pottery like N. B. P. Ware remained unknown to the Nevasa people for such a long time. If it was known how could they wait for 450 to 350 years to produce it. To synchronise the dates of origin of the N. B. P. Ware in the north and at Nevasa, it is, therefore, justified if the assumed date of 150 B. C. at the site, on the basis of the above recent evidence, is pushed back by about one and a half or one century i. e. to about 300 B. C. to 250 B. C. The earliest occurrence of the local coins will naturally be then inbetween 300 to 250 B. C. Combining the present stratigraphic evidences from both the sites (Nasik and Nevasa), the local coins in the Godavari-Pravara system can be assigned time bracket of 300-325 B. C. to about 200 A. D.

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The Bearing of Maheshwar-Navadatoli Excavation on the Chronology of the local Coins

T. N. Roy,

Maheshwar-Navdatoli situated respectively on the northern and southern bank of the river Narmada, about 70 Km. due south of Indore, were excavated by the Deccan College, Poona in the years 1952-53[1]. In all four trenches at Maheshwar and five at Navdatoli were exposed and correlating the evidences from both the sites, a sequence of Cultures from the Early Stone Age to Muslim-Maratha, divisible into Period I to Period VII, was obtained. In the present context Period III (dated roughly from 1500 B. C. to 1000 B. C.), Period IV (dated from 400 B. C. to 100 B. C.), Period V (dated from 100 B. C. to 200 A. D.), Period VI (dated from 200 A. D. to 500 A. D.), and Period VII) named Muslim-Maratha) are important as only these periods yielded local coins.

In all 34 local coins were found at both these sites. Out of this, seven were uninscribed copper cast, six Taxila, eighteen Ujjaiyini and two Mahisati coins. Among the uninscribed copper cast coins three are from the surface of the Maheshwar mounds and two (Nos. 2546 and 4917) are respectively from the layers of Period VIII and Period III i. e. Muslim-Maratha and Protohistoric. The surface coins are of no use in the present context and the occurrence of the last two is quite inconsistent with their duties so far held. The remaining two (Nos. 993 and 861) are from the stratified layers and are therefore worth consideration. Coin number 925 was almost square and bears on the obverse, elephant facing left, in front above a svastika, below III and on the reverse hollow cross, tree in railing, etc. It is found at Maheshwar, trench II, layer II, and hence can be assigned to Period V dated from 100 B. C. to 200 A. D., typologically identical with the uninscribed cast coins of Allan's variety j and k. The other coin number 661 was round and

1. Sankalia, H. D., Subbarao, B. and Deo, S. B, *The Excavations at Maheshwar and Navdatoli, pp. 67..*

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bears on the obverse elephant with rider and on the reverse crescent on hill. It has also been compared with the Allan's uninscribed cast coins, variety p. It was reported from Maheshwar, trench II, layer 8, which is the top of Period V (dated from 100 B. C. to 200 A. D.) and hence the coin can be assigned to early Christian era.

Out of the six Taxila coins, four were from the surface and the rest two (Nos. 932 and 626 a) were from the stratified deposits. Coin number 932 having obverse blurred and on the reverse horse, star and probably a taurine symbol has been compared by the excavator with Allan's Taxila coins, Class 2, varieties a to f. It is reported from Maheshwar, trench II, layer 9, which is one of the top strata of Period V and hence can be placed somewhere in the early centuries of the Christian era. The other coin number 626 A bearing on the obverse vertical monolith symbol, Svastika and a Mauryan *ma* and reverse plain has been compared by the excavator to Allan's Taxila coins, Class I, variety a. It is reported from Maheshwar, trench II, Layer 3. It is almost from the available layers of Period VI and hence can be placed somewhere inbetween 200 A. D. to 500 A. D.

Out of the twenty-one Ujjaini type coins, mentioned in the report, fourteen were from the surface. The remaining seven were from the stratified layers, coin number 688 was found from almost the middle of Period IV (400 B. C. to 100 B. C.), along with the Northern Black Polished ware and hence earliest at the site among this series. It bears in the obverse tree in railing, and an elephant like animal on the reverse. Ujjain symbol with Mauryan *ma* in circles and crescent on hill in opposite corners. The excavator has compared it with Allan's, Ujjaini type, Class 6, variety b. Next two coin numbers 971 and 1063 a were from the earliest layer of period V (100 B. C. to 200 A. D.) and hence can be placed somew here inbetween 100 B. C. to 100 A. D. Coin number 971 bears on the obverse tree in railing with same blurred symbol and on the reverse Ujjain symbol. It has been compared with Allan's, Ujjaiyini types, Class I, variety d. The obverse of coin number 1063 a is not clear and on the reverse it bears Ujjain symbol. The rest of coins, numbers 139, 490 and 626 were from

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almost the middle stratums of Period VI and hence can be placed somewhere inbetween 200 A. D. to 500 A. D. Coin number 139, was found at Maheshwar trench I layer 4, and bears on the obverse tree in railing, a horse or camel like animal, a part of six armed symbol, a svastika and a tree and on the reverse an Ujjain symbol with svastika in angles. This has also been compared with Allan's Ujjaiyini, Class V, variety k (and noted as mentioned in the excavation report). The obverse of coin number 490 is blurred but on the reverse it has a Ujjain symbol with some indistinct thing in angles. The obverse of coin number 626 is blurred but on its reverse it has a svastika symbol. It has been compared by the excavator with Allan's Ujjaiyini, Class 3, variety d. The last coin in this series (number 49) bears on the obverse a standing figure, row of dots armed trend, wearing foots, dot with four crescents around, three-arched chaitya, tree in railing and on the reverse then oblique lines. This has been reported from NVT, KT III, layer 4 hence can be placed round about 200 B. C. to 100 B. C. Trivedi thought that this coin might have a legend *Mahasati* while Sankalia does not think so.

Both the coins bearing the legend Mahasati were found from the surface and are, therefore, found of no use as far as dating by stratigraphy is concerned.

To sum up the Ujjaiyini type coins are earliest at the site. Their earliest occurrence can in case be placed stratigraphically earlier than 200 B. C. at the site, although they continued to occur even upto 300 to 350 A. D. Next comes uninscribed coins whose earliest occurrence at the site should be, in any case, earlier than 100 B. C. although they continued upto 200 A. D. The earliest occurrence of the Taxila type of coins at the site should be near about 100 A. D. but they also continued to occur even upto 300 A. D. (compare from punch marked).

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The Stratigraphic Position of Uninscribed Cast Coins

Purushottam Singh

Recent archaeological excavations in the Gangetic plains have thrown valuable light on the chronology of uninscribed cast coins. In this paper, the stratigraphic position of these coins has been discussed with a view to find out their possibleb earing on the chronology of these coins. The sites involved are Hastinapura, Ahichchhatra, Kausambi, Rajghat and Sohagaura in U. P.1 Varanasi, Kumrahar, Patliputra, Sonpur and Rajgiri in Bihar, Bangarh and Chandraketugarh in Bengal and Sisupalgarh and Tamluk in Orissa

At Hastinapura[1], the total collection of coins amounted to 89 coins, of which eighty-five were found in regular excavations and four were from the surface. The earlier two periods of the site, yielding ochre-coloured and Painted Grey wares, respectively, did not yield any coin. It was in the subsequent two periods (i.e. III and IV), that bulk of the coins was obtained. Uninscribed cast coins were found along with Punch-marked coins first of all in Period III (600 B. C.—200 B. C.) and they continued in Period IV as well (C. 200 B. C. to 300 A. D.), The former are cast in moulds and the metal is copper, of these, eight have been illustrated in the excavation report. Their period wise distribution is as follows :—

Early levels of Period III	...	2 coins
Late levels of Period III	...	3 coins
Early levels of Period IV	...	1 coin
Late levels of Period IV	...	1 coin

The remaining one comes froms the surface. The commonest symbols on the obverse are crescent-on-hill, square with diagonals, elephant to right, and parallel oblique lines. The symbols on the reverse are tree within railing, crescent-on-hill and paralled vertical lines.

1. B. B Lal, "Excavations at Hastinapura and other explorations in the upper Ganga and Sutlej basin" *Ancient India*, 10-11 pp. 101-105.

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Besides, the excavation yielded five Mathura coins, six Yaudheya coins and a few imitation coins of Vasudeva—all coming from various levels of Period IV. Incidently, this excavation shows that Mathura coins have an earlier origin and Yaudheya coins are later in date, as the former were recorded from lower levels of Period IV whereas the latter from middle levels of the same Period. The imitation coins of Vasudeva come from the last but one structural sub-period of Period IV.

The next site is Ahichchhatra[1] in Distt. Bareilly. Here a large number of coins were recorded from various levels in the excavations in early forties but unfortunately the detailed report is not available. But the subsequent work on the site (1963-64) yielded some copper coins, including those of the Kushanas, the Panchalas and Achyuta, from Period III and are associated with Kushana bowls and sprinklers etc. It is not clear, however, whether uninscribed cast coins were present in the collection.

The careful excavations at Kausambi[2] have yielded a rich harvest of one hundred and twenty-two coins in regular stratification of which 55 are uniscribed cast coins. These have been typologically divided in the following four types :

I. Punch-marked coins
II. Uninscribed cast coins
III. Inscribed cast coins
IV. Miscellaneous

The uninscribed cast coins have further been divided in four principal classes. Their chronology is as follows :

(1) Square cast coins : sp. II. 5 to III.16 (885 B. C.-45 B. C.) =29 coins.
(2) Round cast coins : sp. III 10 to III.14 (535 B. C.-185 B. C.)=4 coins.
(3) Mythical Animal Type (Lanky-Bull Type) : sp. III.12 to III.16 (395 B. C. 45-B. C.)=4 coins.
(4) Tiny cast coins : sp. III.12 IV,2 (395 B. C.-235 A.D.) =18 coins.

1. *IAR*, 1963-64-(cyclostyled copy), p. I-71.
2. G. R. Sharma. *The Excavations at Kausambi*, 1957-59 (Allahabad, 1960) pp. 19-23 and 82-85.

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As will be evident from the above table, square coins seem to be the earliest of the four series. In fact these antedate even the earliest series of Punch-marked coins—a fact which is entirely new to us and quite contrary to the general concensus of opinion. In fact, the square uninscribed cast coins make their first appearance in structural period II.5 while the earliest occurrence of Punch-marked coins is only in sp. III.10 giving a time gap of at least three hundred and fifty years. Round cast coins are the next in this series. The last two types of coins started in the beginning of fourth century B. C. but only the last type i.e. tiny cast coins, were in circulation after the beginning of the Christian era. Besides, the inscribed Mitra coins were recorded. Of these, four come from sp. III. 15 (185 B. C. — 125 B. C.) and five from sp. 111.16 (125 B. C. — 45 B. C.). The four Magha coins belong to sp. 1V. 20 (165 A D. — 235 A. D.).

Uninscribed cast coins have been reported from Period Ic (c. 400 B. C. — 200 B. C.) at Rajghat[1] but they are said to continue in the subsequent period also on this site. Thus, they continue to be in circulation upto the beginning of the Christian era. More than a dozen copper coins were found from the small excavations at Sravasti[2] all from Period 11 (datable between the middle of the 3rd century B C. to the middle of the 1st century B.C. These included a well-preserved specimen of the Ayodhya series dated to the middle of 2nd cent. B. C. Recently, cast coins were reported to occur along with N. B. P. ware from Period II at Sohagaura[3]. The next period yielded Ayodhya and Panchala coins in association with Sunga terracottas.

The small scale digging at Vaisali[4] in 1950 yielded only three coins, one Punch-marked and two of uninscribed cast copper variety. The latter, according to the excavators belong to a new type. On the obverse, they bear elephant standing to left on a ladder like symbol facing a triangle-headed standard. In one

1. *IAR*, 1960-61, p. 37 & *IAR*, 1957-58, p. 50.
2. *IAR*, 1958-59, p. 50.
3. *IAR*, 1961-62, p. 56.
4. Krishna Deva and V. Mishra, *Vaisali Excavations*, 1950 (Vaisali, 1961), pp. 58-59. Also see, *IAR*, 1957-58, p. 10 and *IAR*, 1961-62, p. 5.

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case Ujjain symbol is also visible. On the reverse, these coins bear a lion with curly tail facing a tree in railing. A svastika is seen above the lion. All the three coins come from period II and are datable from c 150 B. C. to 100 A. D. Recent excavation by K. P. Jayaswal Research Institute on this site revealed that cast coins are available with terra-cotta figurines, stylistically assignable to Sunga Age. However, they seem to have started with Punch-marked coins and N. B. P. ware. Cast copper coins have also been found at Chirand[1] (Saran) with N. B. P. ware and Punch-marked coins. Uninscribed cast coins associated with Punch-marked coins have been found from period V at Sonpur[2] (Distt. Gaya) datable to c. 50 B. C Terracotta sealing bearing symbol of Punch-marked and cast coins have also been found from the same levels at this site. Similar evidence is also fourth coming from Kumrahar excavation[3]. Sounding in the different parts of Patna city have brought to light two pot-sherds bearing symbols of Punch-marked and cast coins, attesting indirectly the presence of these coins. These pot-sherds have been dated to c. 150 B.C.— A. D. 100.

In Bengal, only two sites have yielded cast coins. One is Bangarh[4] (Dinajpur) and the other is Chandraketugarh[5] (Distt. 24 Paraganas). On the first site, seven uninscribed cast coins were found. These are rectangular in shape and are coming from Tr. 5 from a depth of 14.71 ft. to 17.86 ft. ascribable to Mauryan-Sunga Periods. An equal number of Punch-marked coins were also recorded from the same levels. The copper cast coins, bear on the obverse elephant facing left and possibly a taurine symbol. On the reverse, various symbols i. e. tree in railing, hollow cross, taurine and three arched hill were noted.

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1. *IAR*, 1964-65 (cyclostyled copy), p. I-14.
2. *IAR*, 1956-57, p. 20.
3. A. S. Altekar and V. Mishra—*A Report on Kumrahar Excavations*, 1951-55, (Patna, 1959).
4. K. G. Goswami: *Excavations at Bangarh* (Calcutta: 1944), pp. 31-32.
5. *IAR*, 1956-57, p. 30; 1957-58, p. 52; 1958-59, p. 56; 1959-60, p 51; 1960-61, p. 39-40; 1951-62, pp. 61-62; 1962-63, p. 46; 1963-64 (cyclostyled copy), I-96 and 1964-65 (cyclostyled copy), I-96-97.

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Cast copper coins have been recorded from Periods II and III alongwith N. B. P. ware and Sunga terracottas at Chandraketugarh. They continue to be in circulation upto Kushana Period and even in early Gupta Age. Here, systematic excavations for the last ten years have yielded a rich harvest of copper cast coins. A detailed report will throw valuable light on this problem. However, it is precisely clear that these coins were in circulation upto 4th-5th century A. D. Here, a large number of these coins were found in the basal layer of the rampart suggesting the observance of some sort of ritual at the initial stages of the construction of the rampart (dated 1st cent. B. C.). Some cast coins were also found from Harinarayanpur (24 Parganas) in exploration[1].

Cast copper coins have been found from Period II at Tamluk[2] (Distt. Midnapur) but they are consipicuous by their absence in the subsequent period which yielded sprinkler and Rouletted ware. Nine uninscribed cast coins were recorded from different levels at Sisupalgarh.[3] Of these three, each come from upper layers of Period IIA (A. D. 50 - A. D. 100) and from lower layers of Period II B (A. D. 100-125). The remaining three come from later deposits. All these coins are rectangular in shape and have horse to the right, below a wavy design (river symbol) on the obverse and triangle-headed standard with a taurine within the triangle on the reverse. Thus it is clear that on this site also these coins make their appearance only after the beginning of the Christian era.

Conclusion :

From the foregoing discussion, the following facts emerge :—

(1) It seems that at least one type of uninscribed cast coin i. e. round cast coins, were issued as early as the beginning of 9th century B. C. and are earlier than other types of cast coins. In fact, these coins are earlier than Punch- marked coins also. However, it must be borne in mind that the evidence furnished from Kausambi excavations, is only one of its kind and needs corroboration from othere sites.

1. *IAR*, 1956-57, p 81.
2. *IAR*, 1954-55, p. 20.
3. B. B. Lal : Sisupalgarh, 1948, *Ancient India*, No, 5, pp. 95-99.

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(2) Stratigraphically Mathura coins are earlier than Yaudheya coins.

(3) In mid-Ganga basin, uninscribed cast copper coins are commonly met with in 5th-6th centuries B. C. (N. B. P ware levels) and continue upto Sunga Period.

(4) These coins are comparatively late in Eastern India where these have been recorded from Maurya-Sunga levels (4th century B. C. – 2nd century B. C.) but continue to be in circulation upto early Gupta period. Thus while uninscribed cast coins cease to be in use after the beginning of the Christian era in the mid-Ganga basin, but they continue to be in circulation at least for four centuries in Eastern India.

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On the Copper Cast Coins found from Kumrahar Excavation

N. Ahmad

The excavation at Kumrahar has yielded eighty local coins.[1] Out of which, seventy two are copper cast coins. Among the remaining eight coins, six are of the Lankey bull type of Kausambi and the rest two belong to Panchala and Ayodhya Series.

Out of six Kausambi coins, four specimens come from the stratified layers and the rest two are discovered from the surface. All the stratified coins occur in Period II. Of two Panchala and Ayodhya Series only one is found from the stratum II of the excavation and that belongs to Bhumimitra of Panchala.

The copper cast coins are found from the various periods. They are as follows :

Period I	...	9
Period II	...	23
Period III	...	27
Period IV	...	1
Unstratified	...	12

The coins of Period I are found from the plots KR II, KR IV and KR VII . The lower limit of this period is fixed by the excavators as c. 150 B. C[2]. No remains of any Mauryan structures were found in the extensive areas excavated in KR I to KR VIII. Howevr, they "found some poor and flimsy brick structures in KR IV and KR VII belonging to the pre-Sunga period."[3] In the description of coins, the coin no. 10, Reg. No. 977z[19] is said to have been found from period I of KRN II but in the chapter of Excavation and Stratigraphy, nothing has been written about

1. Altekar, A. S. and Mishra, V., *Report on Kumrahar Excavation*—1951-55, pp. 92 ff.
2. Ibid, p. 19
3. Ibid, p. 15
4. Ibid, p. 92

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this period, except "no building belonging to the Mauryan period was discovered."[1] However in the 'section' of KR II N, this period is marked.[2] Similarly, in the section of 'Chronology', cast and punch-marked coins are said to have been found from layer 5 of KR I which occurs in period I, but this evidence is neither mentioned in the chapter of 'Excavations and Stratigraphy', nor, in the Section of 'Coins', any coin of this period is recorded to have been found from this plot.[3]

The most characteristic feature of this period is the grey ware of coarse fabric, usually mixed with red ware. Few sherds of the N. B. P. ware have also been found from these layers, as in layer 10 in KR IV and in 6 and earliest layers, i. e. 7 and 8, in KR IV Z. Cast coins have been found from layers 7 and 8 of KR IV Z.[4]

The excavators write that "the stratification shows that these coins were in use during the Sunga and the Kushana periods, though a few survive in the Gupta age also In the limited Mauryan stratum excavated, we did not find them".[9] "Period I structures were usually resting on the ashy layer, but they were sometime separated from it by a thin layer of yellowish loose ashy earth. The antiquities associated with them were (1) a Lankey Bull type of Kausambi coin (2) Punch-marked and cast coins and (3) typical pottery ascribed to the Sunga period". The excavation in the Tomb area thus made it clear that after the Hall was burnt down and destroyed, structures were built over it.....The hall was destroyed before the structures of Period II were built somtimes during c. 150 B. C. and 100 A. D. It is possible to suggest that the destruction of the Hall was a consequence of the Greek invasion in the reign of Pushyamitra Sunga".[10] As the excavators could not find any datable material, from KR IV Z, assigned these coins to Sunga period. They clearly say that

1. Altekar and others, p. 38
2. Ibid, p. 19, facing
3. The coin found from KR I is punch-marked and not cast coin.
4. Ibid, p. 19
5. Ibid, p. 92
6. Ibid, p. 23

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"only by means of stratigraphy we had put this period before 150 B. C." because of the associations of these layers with N. B P. coarse grey ware, usually mixed with red ware.[1] The thickness of the deposit of Period I is 3 feet at the middle and less than 3 feet at the ends. Can we, giving 100 or a little more years for the accumulation of these layers, ascribe these cast coins to 3rd century B. C. ? However, it is difficult to conjecture as the layer and depth of all these cast coins are not known.

It is, therefore, clear, that during the period when the Mauryan pillared Hall was in use, there were no structures of any imposing nature in this area. If the earliest limit of Period I is fixed as the middle of the 3rd century B. C., the coins found from the deepest layer of this period may be taken to have been circulated in the time of Asoka or his successors. A coin of Bhumimitra and Lankey Bull type Kausambi coins occurring only in Period II also suggest to the earliar date of these cast coins.

Most of the coins of Period I including both sides, have two symbols. Only on one coin, seven symbols occur. The later characteristic dominates in Period II. Only a few coins of two symbols are found from Period III and they might have been the circulated pieces.

On some of the coins we get similar symbols on both the sides, such as, crescented hill, elephant, V topped banner, taurine, etc. Are they freak issues ? Howevr, it may be noted that this feature first occurs in the coinage of Period II and increases in the later period.

1. Altekar and others, op. cit, p. 42

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APPENDIX

[The various types of coins occurring in stratified and unstratified horizons are mentioned here.]

Horizon	Type	No. of Coins	Weight	Obverse	Reverse
Stratified					
Period I	I	3	25.5	Blurred	Blurred
			35.0	,,	,,
			13.5	,,	,,
	II	1	35.0	,,	Three arched crescented hill
	III	3	14.0	Elephant	,,
			16.0	,,	,,
			7.5	,,	,,
	IV	1	13.0	,,	Hollow cross
	V	1	33.0	Elephant, Svastika, Taurine, V topped banner	Three arched crescented hill Hollow cross, Tree in railing
Period II	I	5	60 (a thin and small size)	Blurred	Blurred
			80 (Broken)	,,	,,
			18.0 (Broken)	,,	,,

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		18.0	,,	,,
		23.0	,,	,,
II	1	10.0 (Broken)	,,	Three arched crescented hill, Hollow cross
III	1	33.0	,,	Three arched crescented hill, Hollow cross, tree in railing, taurine
IV	1	12.0	Traces of Elephant	Blurred
V	6	11.0	Elephant	Three arched crescented hill
		17.0	Elephant	Three arched cresented hill
		14.0	,,	,,
		15.0	,,	,,
		21.0	,,	,,
		22.0	,,	,,
VI	1	44.0	Elephant and Hollow cross	Three arched crescented hill, tree in railing, taurine and V shaped banner
VII	1[1]	42.0	Elephant before a post, other symbols blurred	Three arched crescented hill Taurine, Tree in railing
VIII	2	61.5 20.0	Elephant, Svastika, V topped banner	Three arched crescented Hill, Taurine, Tree in railing and Hollow cross

1. Altekar noted one more blurred symbol on this coin but I think that the coin belongs to this type.

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Horizon	Type	No. of Coins	Weight	Obverse	Reverse
	IX	1	34.0	Elephant before a standard, Svastika, Taurine	Three arched crescented hill, Tree in railing, Hollow cross.
	X	1	26.0 (Broken)	Elephant, Tree in railing	Three arched crescented hill, Tree in railing, Taurine, V topped banner.
	XI	1	26.0	Elephant, V topped banner, Taurine	Three arched crescented hill, Tree in railing, other symbol indistinct.
	XII	2	35.0	Elephant before banner	Faint traces of tree in a railing
			22.0 (Broken)		
Period III	I	4	5.0 (athin coin)	Blurred	Blurred
			6.0 (Broken)	”	”
			26.0	”	”
			27 0	”	”
	II	2	12.0	”	Tree in railing (faint traces)
			64 0	”	”
	III	1	15.0	”	Hallow cross (only clear)

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IV	1	20.0	"	Three arched crescented hill, Hollow cross and other symbols blurred
V	1	37.5	Blurred	Three arched crescented hills Hollow cross, Tree in railing and other symbols blurred
VI	3	14.0	Elephant	Three arched crescented hill
		20.0	"	"
		26.0	"	"
VII	1	49.0	"	Three arched crescented hill, Tree in railing, Hollow cross
VIII	1	40.0	Elephant and Hollow cross	Sun, Three arched crescented hill and Tree in railing
IX	1	40.0	Elephant before a post	Tree in railing, Hollow cross and other symbols blurred
X	1	39.0	Elephant, other symbols blurred	Three arched crescented hill, Tree in railing, Swastika and fourth symbol blurred
XIII	1	44.0	Elephant, Hollow cross and *V shapped banner*	Three arched crescented hill, Tree in railing, Taurine and *V shapped banner*.

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Horizon	Type	No. of Coins	Weight	Obverse	Reverse
	XIV	1	37.0	Elephant, *V topped banner*, *Taurine* and Hollow cross	Three arched crescented hill, Tree in railing, *V topped banner* and *taurine*.
	XV	1	52.0	Elephant *Three arched crescented hill, Tree in railing*, and Svastika	*Three arched crecented hill, Tree in railing* and Hollow cross.
	XVI	1	18.0	Elephant, Svastika, other Symbols blurred	Three arched crescented hill, Tree in railing & Hollow cross
	XVII	3	25.0 27.0 44.0	Elephant, Svastika, V topped banner and taurine	Three arched crescented hill. Tree in railing & Hollow cross
	XVIII	1	32.0	,,	Tree in railing, Hollow cross other symbols blurred[1]
	XIX	1	44.0	Elephant, taurine & V topped banner	Three arched crescented hill, Tree in railing & Hollow cross
Period IV	I	1[2]	5.5	Elephant	Three arched crescented hill

1. It is not unlikely that the reverse of this type is similar to types XVI and XVII and only one symbol three arched crescented hill is blurred.
2. A very light coin of a different fabric.

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Unstratified

I	3	2.0 (Broken)	Blurred	Blurred
		5.5 (Broken)	"	"
		25.0	"	"
II	4	11.0	Elephant	Three arched crescented hill.
		15.3	"	"
		33.0	"	"
		33.0	"	"
III	1	22.0	"	Tree in railing
IV	1	39.0	Elephant, V topped banner, other symbols blurred	Three arched crescented hill, Tree in railing, other symbols blurred
V	1	31.0	Elephant, V topped banner and Taurine	Three arched crescented hill, Tree in railing, Taurine and Hollow cross
VI	1	14.5	Elephant, V topped banner Taurine, other symbol blurred	Elephant, Tree in railing, two symbols blurred
VII	1	37.0	Elephant, V topped banner, and Hollow cross	Three arched crescented hill, Tree in railing, and V topped banner

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A Study in the Metrology of the Local Coins of Central India

Deenabandhu Pandey

The metrology of the Local Coins is one of its most complicated problems. Central Indian Local Coins comprise the issues of certain localities, kings and cities, the formar one being uninscribed and the latter two inscribed. It is supposed that punch-marked coins were followed by cast coins throughout the whole of Northern India except Kauśāmbī where cast coins seem to be earlier.[1] The Local coinage of Northern India seems to have originated some time under the Mauryas.[2]

During the later Mauryas the various provinces of their kingdom started assertaining their independence, to mark which they imitiated their own Local coinages. The earliest of these were uninscribed like the previous punch-marked money and contained only some symbols either alone or in groups. Later, however, this coinage developed further and came to be inscribed.

The Mauryan Coins, which are found nearly from the whole of India, show a uniform metrology. But it is not certain whether the local successors of the Mauryas followed the same pattern or not.

The cast coins of Central India are studied with a view to provide a clear picture of the metrology used in the region.

While studying the metrology of Central Indian Local Coins the weights of all the published coins have been taken into consideration.[3]

The Local Coins of Central India have been studied into two classes, the first being uninscribed, i. e. the issues of certain local authorities, and the second, inscribed, i. e. the issues of the kings of certain localities and the cities. The coins of certain local which are noticed as influenced by other coinages, and

1. *Excavations at Kausambi*—1957-59, Allahabad, 1960, p, 22.
2. *BMC, AI*, p. cxxxix.
3. The corrected attributions of the coins have been followed.

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were locally minted by mercantile guilds, have been put under sub-classes of that locality. The unattributed coins have been studied under a separate class. Thus, by the way of comparison it has been tried to find out the metrology used by the issuing authorities in Central India.

Uninscribed Cast Coins

The cast coins found in Central India may be categorised in two weight standards, which seem to be struck in three denominations. The average weights of the first category are 69.68, 35.2 and 16 grs., which may be identified with copper *ardhakārshāpaṇa pādakārshapaṇa* and *ashtabhāgakārshāpaṇa* or *dvimāsh* weighing 72, 36 and 18 grs. respectively. The second category has its average weights—47.5, 25.33 and 12.9 grs. which may be identified with the weights of the silver *kārshāpaṇa*, *ardhakārshāpaṇa* and *pādakārshāpaṇa* weighing 36, 28.8 and 14.4 grs. respectively.

It is interesting to note that both the weight standards of silver and copper were used for cast coins. May we infer from this that the coins of the first group belong to the earlier period when silver coins were also being struck, whereas the second group was issued at a later time when silver coins were not been issued and the new currency was introduced in copper for which the weight standard of the silver coinage was adopted and the original standard of copper was abandoned. The whole post-Mauryan coinage was mainly of copper. The reasons of this sudden change from a uniform silver currency to a copper one must have been purely political. The variations found in the weight standards of the cast coins of Central India may also be taken to indicate the same.

In Central India the technique of casting was used in some of the local coinages also,[1] but they do not follow the weight standards mentioned above.

Uninscribed Local Coins

The uninscribed coins of Central India may be classified in three groups, 1. Ujjainī, 2. Eraṇa and 3. Coins with doubtful attributions.

1. *JNSI*, VIII, pt. II, p. 105; XVI, pt. I, p. 65; XVII, pt. II, p. 33.

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Uninscribed Coins Of Ujjainī

The metrology of Ujjainī coins, for the first time, attracted the attention of A. Cunningham and later on the attention of A. S. Altekar when he was studying the kasarwad hoard of Ujjainī coins. Altekar remarked that an analysis of the weights of the Kasarwad hoard shows that they belong to various demominations.[1] It is however difficult to assertain the weight system that they follow.

A study of the Ujjainī coins, will show that they weigh from 155 grs. to 3 grs. in a uniformly decreasing manner. We may clearly notice the concentration of weights on some points. Giving a margin for wear and tear and inaccuracy, it may be suggested that the metrology of these coins follows the decimal system. It is clear from the chart that the coins weigh in a decreasing manner and have the difference of 15 grs. from 155 to 140 grs.; of 5 grs. from 140 to 20 grs. (this difference seems to be at times more than 5 grs.); afterwards of 2 grs. from 20 to 6 grs.; and then of 1 gr. from 6 to 3 grs.

Coins of smaller denominations are known only from a few places in ancient India. V. S. Agrawal noticed *raupyamāshaka*s and *ardharaupyamāshakas* found from sindh, weighing 3·6 and 1·8 grs. respectively.[2] The coins of similar denominations were issued by the Mālava republic at about the beginning of the Christian era, they weigh 2·6 and 1.7 grs.[3] The Mālava coins may be identified with *kākiṇī* and *ardhakākiṇī* which weigh 2·25 and 1·0125 grs. respectively, but more probably these were the coins of copper issued to silver standard and may be identified with *raupyamāshaka* and *ardharaupyamāshaka*, which weigh 3.6 and 1·8 grs.[4] Ujjainī coins, however, do dot follow these metrologies. They follow a some what different metrology which seems to correspond more or less with a decimal system. It is certain that they did not follow the *śatamāna* or *kārshāpaṇa* standards and denominations.

Ujjainī coins minted by mercantile guilds and those having the Sātavāhana influence also show the same metrology.

1. *JNSI*, VIII, pt. II, p. 104.
2. *JNSI*, XII, Presidential address.
3. *IMC*, I, p. 163.
4. Coins of smaller denominations are also found in Eraṇa coinage which are dealt with at another place in this article.

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Uninscribed Coins of Eraṇa

The metrology of the uninscribed coins of Eraṇa was touched for the first time by S. L. Katare.[1] He identified some of the coins with ½ *paṇa*, ¼ *paṇa* and ½ *kākiṇī*. But this identification was doubted by A. S. Altekar[2] as the weights of the specimens referred were far[3] from those given in literature, but Katare failed to agree with Altekar, and explained this discrepancy by giving margins for wear and tear.[4]

The uninscribed Eraṇa coins, however, show a different conclusion. The weights of these coins range from 192 to 5 grs. They have a difference of 40 grs. up to the coins weighing 160 grs. and then show a difference of 20 grs. up to those weighing 140 grs. Coins weighing 140-50 grs. have a difference of 5 grs. in a decreasing fashion, which perhaps may have been more than 5 grs. also. This metrology corresponds to the metrology of uninscribed coins of Ujjainī, but the concentration of the weights of the Eraṇa coins is quite clear than in Ujjainī coins.

The coins of the lesser weights, i. e., after those weighing 50 grs., start with 16 grs. upto 5 grs. which may be regarded to be of 4 grs. giving a difference of 2 grs.

Inscribed Coins

The occurrence of inscriptions on the coins was an advancement in Indian coinage. The Central Indian Local Coins may be classified in two classes, i. the issues of the kings and ii. the issues of the cities.

Coins of the Kings

Ujjainī

Only one coin of a king of Ujjainī, named Ajadatta, is found which weighs about 70 grs. and may be identified as *ardhakārshā-*

1. *JNSI*, XIV, pp. 60 and 61.
2. Ibid, XIV, p. 60, f. n. 1.
3. 1/2 *paṇas* identified by Katare were 12-15 grs. less than the usual weight of the copper *ardhakārshāpaṇa*. 1/2 *kākiṇī* was actually to be identified with *ashṭabhāgakārshāpaṇa* or *dvimāsha* of copper which is nearer to this weight.
4. Loc. cit.

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paṇa of 72 grs., but it may as well not be issued to the *kārshāpaṇa* metrology and may be in conformity with the usual local metrology of the area, this latter suggestion carries more weight. This however could be assertained only after more coins of Ajadatta are found. The alloyed Silver coin of Ajadeva which has been attributed by Altekar to above mentioned king will give more weight to above suggestion as it weighs 126·2 grs.

Eraṇa

The inscribed coins of Eraṇa belong to two kings named Dharmapāla and Madavika, the latter may also be the name of a people. The coin of Dharmapāla weighs 179 grs. and of Madavika 92·6 grs. The two coins may be taken to be the copper *vimśatika* or silver *śatamāna* and *ardhaśatamāna* respectively issued in copper, which are taken to weigh 180 and 90 grs. respectively. But, these coins can be easily fixed up in the metrology of the uninscribed coins of Eraṇa and this will make the metrology of the Eraṇa coins a complete one.

Vidiśā

The 4 coins belonging to 3 rulers of Vidiśā—Śivagupta (one coin), Sukhadeva (2 coins), and Sujyeshṭha (one coin)—are assigned roughly between 2nd c. B. C.—3rd c. A. D.

The coins of Śivagupta and Sujyeshṭha which are the coins of 2nd cent. B.C. weigh 9 and 120 grs. respectively. The one weighing 9 grs. may be identified with a copper *māsha* of the same weight. The coin of Sujyeshṭha, however, seems to be following the weight system of Ujjainī and Eraṇa. In this light the coin of Śivagupta, weighing 9 grs., seems to be in the same metrology being of 10 grs. weight. The coins of Sukhadeva may be taken to weigh 36 or 40 grs. If weigh 36 grs., they may be identified with *pādakārshāpaṇa*, otherwise they also belong to the local metrology of Ujjainī and Eraṇa.

Sevaka Dynasty

The 3 known coins of this dynasty were struck in copper, bronze and lead and were issued by Dīmabhāga Sevaka and Prakāśaśiva Sevaka. They belong to two weight groups one being of 40 grs. and the rest of 110 grs. These coins also belong to the metrology used in Ujjainī and Eraṇa.

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Coins of the Cities

This type of coins, in Central India, are reported from Ujjainī, Eraṇa, Māhishmatī, Tripurī, Vidiśā, Bhāgila and Kurara.[1] Coins of the cities also may be grouped in the denominations which vary having differences of 10 or 5 grs. of weight. Thus the coins of the cities of Central India also follow the metrology of Ujjainī and Eraṇa.

Coins with Doubtful Attributions

The unattributed Local Coins found in Central India may belong to different localities. But, it is surprising that the concentration of their weights follows the same pattern as the coins of Ujjainī and Eraṇa.

Conclusion

A consideration of the results found from above discussions suggests that the metrology in Central India probably changed after the Mauryas. The cast coins which follow the weights of silver *śatamāna* and copper *kārshāpaṇa* were not followed by the Local Coins which were issued to an altogether different weight standard and denominations. If any thing can be inferred from the above study, it is only this, that the 5 grs. copper piece was probably the unit denomination.

If the 5 grs. piece be equated with 2·5 *rattīs* denoting copper *ardhamāsha* which accurately weighs 4·5 grs., we may infer that the Central Indian Local Coins show the different multiples of this *māsha*. To relate the higher denominations with this *māsha* of 5 grs. is not a simple thing, because there might be a little inaccuracy in lesser denominations, but not in the higher ones. For example we may agree on the weight of a *māsha* which weighs 5 grs. and not on the weight of a *kārshāpaṇā* or *vimśatika* which seems heavier by 12-15 grs. than its weight as found in literature. If we take the wear and tear of the coins also into consideration the difference in the weights will become more higher. Thus it is clear that the Central Indian Local Coins do not follow the *kārshāpaṇa* or *śatamāna* weight system.

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1 The coins of Kurara city were noticed by S. L. Katare (JNSI, XIV, p. 12.) but unfortunately are not published.

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But, it is also not convincing that the coins being multiples of an *ardhamāsha* upto 40 were issued, as two coins of Eraṇa weigh nearly 195 grs. suggesting the issue of a coin of 200 grs. Thus the metrology of Central Indian Local Coins presents a very complicated problem. It is rather strange that all the Local Coins of Central India show the same pattern of metrology. Although it is not very clear to us now, yet it seems that a definite metrology was used by the local authorities. This metrology, which was prevalent in nearly the whole of the Central India for at least 300-400 years, from *circa* 200 B. C. to 250 A. D. has its own importance. For convenience sake this may be styled as *Avanti Deśa Metrology*, after the name of the part of the country in which it was popular.

Appendix

Cast Coins

I

Weights of coins	Groups	Average weight	Nearest weights of ancient coins	
74				
66.6	I	69.68	72	(Copper *ardhakārshāpaṇa*)
65				
64.5				
47.5	II	47.5	57.6	(Silver *kārshāpaṇa*)
38				
32.8	III	35.2	36	(Copper *pādakārshāpaṇa*)
32				
27				
25				
24	IV	25.33	28.8	(Silver *ardhakārshāpaṇa*)
16	V	16	18	(Copper *ashṭabṭāgakārshāpaṇa* or *dvimāsha*)
12.9	VI	12.9	14.4	(Silver *pādakārshāpaṇa*)

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II

Cast coins of Ujjain

53 31 8

Cast coins of Central India having influences of Sātavāhana coinage

30.45 22.8

Cast coin of Sevaka Kings

40.5

Cast coins of Tripurī

130 94

Uninscribed Coins

Ujjainī

155	99
137	98
132	98
130	97
128.2	97
124	97
120	90
119	90
117	89.6
116	85
114	85
112	84.25
112	84
112	84
110	84
110	84
109	84
108.6	83
108	82.5
102	81
102	81
101.5	80.5
101.5	80
100	80

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80
80
80
79
78.7
77.8
77.5
77
77
77
76.8
76.5
76
76
75
75
74
74
74
73
73
72·5
71.6
71
70.5
70.5
70
70
70
68.7
68.15
68
67.51
67·5
67.1
67
67
67
67
66.8
66
66
65
65
64
64
63
63
63
62.6
62
62
61.3
60.6
60
60
60
60
60
60
59.7
59
59
59
59
58
57
57
57
56.5
56
56
55
55
55
55
54
53
53
52.4

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52.07	33
52	32.73
52	32.5
52	32.5
51.26	32.5
51	81.9
50.3	31
50	31
50	30.5
50	30
50	30
49	30
48	29.2
47.2	29
47	29
46.3	28.7
46	28
44	26.4
43	26
42.8	25
42.5	25
42	25
41.3	24.8
41	24.5
41	24.12
40	24
39.2	24
39	24
38.5	23.3
38.5	23
38	22.5
37	22
37	22
36.76	21.13
36	21
36	21
36	20.5
36	20
36	19.5
34	19

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19	12.66
18.2	12.46
18	12
18	10.87
17.86	10.5
17.2	8
17	7.7
16.62	7.6
16.3	7.33
16.2	6.5
16	4.965
15	4.367
14.61	4
14.2	3.472
14	3.394
13.2	3.271
13	3
12.9	3
12.7	

Ujjainī coins locally minted by mercantile guilds

91	72
77	

Ujjainī coins having Sātavāhana influences

97.5	20
59	16

Eraṇa

192	90.5
192	89
160	88
141	84
135	82
121	79.5
112	79
105.5	77
100	77
98.5	74
98	73.5
96.5	73
92	64
92	62.5

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62	16
58	14
58	14
56	13
55	12.5
54	12.4
52	12
52	12
51	11
44	10
31	10
27	8
26	6
18	5
16.8	3

Coins with doubtful attributions

80	46
79	31
62.5	27
61	16
59	16
55.5	11
48	

Inscribed coins

I

Coins of the kings of localities

Ujjainī	Eraṇa	Vidiśā	Sevaka kings
	179		
126.2			
		120	
			110
			110
	92.6		
	73.3		
69.2			
			40.5
		37.43	
19.7			
		8.12	

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II

Coins of the cities

Ujjainī	Eraṇa	Māhishmatī	Tripurī	Vidiśā	Bhāgila
			130		
			123		
			122		
			118		
			115		115
					95
			94		
		74.5			
					64.5
71					
64		64			
62					
54					
					48
					46
		43.5			
			30		
	24			24	
	23				
		16			
				13	

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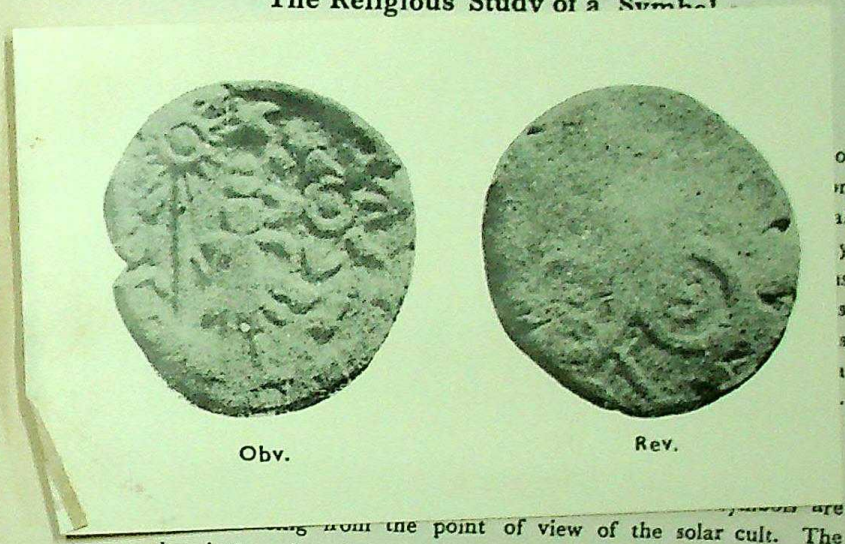

Obv. Rev.

...ing from the point of view of the solar cult. The description of symbols may be given as follows :

Obverse : A human figure standing, facing, clad in short tailed coat and high tiara ; above, svastika and taurine; to r. solar symbol composed of crescents and broad arrow-heads attached to central boss; to l. standard surmounted by rayed sun; on extreme left tree.

Reverse : Ujjain symbol with an inner circle and dot in each orb. (see, *Illustration*)

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The Religious Study of a Symbol on an Avanti Coin

V. C. Srivastava

It is generally accepted by most of the scholars that many of the symbols on coins are religious in character. This supposition may be upheld with greater confidence in case of local and tribal coins of ancient India.[1] Various symbols appearing on many local and tribal coins have been interpreted in terms of religions successfully. No doubt, the study of many symbols on these coins may help us in sheding light on many dark corners of religious history.[2] The study of the sun worship may be benefitted by a critical examination of some of the so-called solar symbols appearing on ancient Indian coins.

Smith has described a copper coin (uninscribed) of standing figure type in his Catalogue[3] from Avanti whose symbols are worth-noticing from the point of view of the solar cult. The description of symbols may be given as follows :

Obverse : A human figure standing, facing, clad in short tailed coat and high tiara ; above, svastika and taurine; to r. solar symbol composed of crescents and broad arrow-heads attached to central boss; to l. standard surmounted by rayed sun; on extreme left tree.

Reverse : Ujjain symbol with an inner circle and dot in each orb. (see, *Illustration*)

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1. Banerjea, J, N. *The Development of Hindu Iconography*, 1955, pp. 109.
2. Bumford, H., "The Value of Numismatics in the Study of History", JUPHS, X, 2, p. 1-16.
3. Smith, V. A.—*Catalogue of the Coins in the Indian Museum*, Calcutta, vol. I, p. 153, Pl. XX-2. Cunningham, A., *Coins of Ancient India*, pl. XX. 2.

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There are certain peculiarities in this group of solar symbols which may be noted as follows : Firstly, here the solar symbols are found in association with a human figure. This feature is not found on other coins,[1] though solar-symbol is depicted on many coins from this place[2] as well as from elsewhere.[3] Secondly, probably nowhere the solar-symbol is found attached to a standard, though Garuda standards are found on many other coins such as on those of Guptas.[4] It is to be noted that a somewhat similar symbols are found on a few coins from Eran-Ujjain as reported by H.D. Sankalia.[5] But on these coins the staff is surmounted by a taurine symbol and not by a rayed sun though human figure with circle surrounded by six symbols and on reverse svastika etc. are found. In view of these differences such coins may not be grouped with one we are discussing though they indicate that tradition of depicting human figures in association with symbols (probably solar as Taurine is supposed by many)[6] and shaft may have been in that region.

A critical analysis of these two peculiarities from a local coin of Avanti may throw interesting lights on the history of the sun-worship in ancient India. Firstly, the question of the identity of the human figure may be discussed. There are two probabilities as was admitted by Smith himself.[7] Either he may be a king or a deity. If the figure is that of a local king, the

1. A perusal of local coins from Kauśāmbī, Ayodhyā, Avanti and Taxila etc. will bear out the truth of it. Cf : Cunningham, A., op, cit. ; Smith, V. A., op. cit., 148-159. Allan, J., *British Museum Catalogue* and reports about new finds from these places in various issues of *JNSI*.

2. The solar symbols occur on many local coins of this place. Smith, op. cit. JNSI, X, pt. I, pp. 38-42; JNSI, XVI. pt. II, pp. 130-135; XLV, I & II, pp. 41-42; JNSI, XVI, I. pp. 61-62; JNSI, XIII, I, pp. 73-75; JNSI, XII, Pl. II, pp. 217-223; JNSI, VIII, pt. II, pp. 99-106.

3. Smith, V. A., op. cit., pp. 136-142. Ayodhya & Taxila Coins. It occurs on tribal coins. JBORS, XX, pt. II, p. 181. Besides solar symbols also occur on punch-marked coins. *NS*,XLV, JASBNS, XXX, 1934.

4. Altekar, A. S. 'Gupta Kalina Mudrāyen', p. 69.

5. JNSI, vol. II, pp. 81-82. Cunningham also listed one such coin. CAI. 1891, p. 96, Pl. C. II.

6. Banerjee, J. N., op. cit.

7. Smith, V. A., op. cit., p. 153.

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natural inference would be that the king was a staunch follower of the sun-cult as he is the standard bearer of that deity. There are cases in ancient Indian history when the king showed his strong faith in a cult by becoming a standard bearer and also by depicting it on coins as in the case of Guptas who have called themselves as "Paramabhāgvatas"[1] e. g. staunch follower of Vaishnavism and on their coins Garuḍadhvaja the emblem of Vaishnavism may be found. If this analogy is correct, then naturally the king in question becomes a great devotee of Sūrya (param-saura) and the standard may be named as "Sūryadhvaja". If the figure as that of a deity, then no other god except sun may be thought of because of clear solar associations—to right solar symbol composed of crescents and broad arrow-heads attached to central boss and to right standard surmounted by a rayed sun. If it is so this becomes one of the earliest known pieces of evidence about the anthropomorphic form of sun-god because the coin may be placed approximately between 2nd B.C. and 2nd A.D. while the earliest human representation is found on the Bodh-Gayā relief (I B. C. to I A.D.).[2] Whatever might be the real fact of these two probabilities, there is no doubt that the entire picture is indicative of the solar-worship of probably sectarian type which may have been prevalent in the region of Avanti in few centuries before and after the Christian era.

There are literary and epigraphic referencces to the effect that the region of Avanti was a strong hold of the sun-cult in later times. It has been specifically mentioned by Varāha Mihira[3]—the great sun-worshipper that he hailed from Avanti. Moreover, Mandasor Stone Inscription[4] informs us that a sun temple was constructed in Daśapur.

Thus this numismatic evidence confirms the literary tradition that the region of Avanti was devoted to the sun-worship of sectarian type. The popularity of the sun-worship in this region

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1. Majumdar and Altekar, *Vakataka-Gupta Age*.
2. Coomarswamy, A. K., *History of Indian and Indonesian Art*, p. 33; JRAS, 1908, p. 1096.
3. *Varāhamihira-Brihat-Jātaka*, Trans., B. Surya Narayana Rao, Ch. XXVIII, stanza IX.
4. Fleet, J. F., CII, III, pp. 79-88.

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may be gauged from the fact that in several other coins from this place solar symbols have been found but the significance of this piece of evidence lies in the fact that firstly it probably provides us with the earliest numismatic specimen of solar-symbols in association with a human figure (if it is not the earliest piece of anthropomorphic representation of the sun-god himself). Secondly, it shows a standard of the sun—a sort of "Suryadhvaja" like Garuḍadahvaja of Vishṇu. Thirdly, it gives us one of the earliest evidences about sectarian sun-worship. In view of the fact that this symbol is distinctive of this place it is probable that for the first time the tradition of sectarian sun worship in the interior may have been evolved in this region.

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Palaeography of Local Coins of Northern India

T. P. Verma

Those coins which are not punch-marked and issued before the advent of the Guptas are generally known as local and tribal coins. The organisers of the seminar have differentiated the local and the tribal ones for the sake of convenience. The Local Coins are those which are confined to a certain locality and are not attributed to any tribe like Yaudheyas, Arjunayanas etc. But such a differentiation is not very convenient or even scientific for the purposes of study, for, these local and tribal coins go together and any study of them should be made side by side. In the history of Indian Numismatics, chronologically the local and tribal coins come after the punch-marked ones. They show certain technological advancements. These coins are either cast or die-struck, and sometimes inscribed also.

The earliest example of casting inscribed metal piece is the Sohgaura Bronze Plaque, which bears besides the inscription, crescent on hill symbol and a symbol resembling Brahmi letter *ma*, also found on punch-marked coins. In casting some letters are reverted and we can see this in the inscriptions on coins as well. These cast coins are earlier than the die-struck coins. Rapson observes that 'the art of striking from a die would seem to have been known here (at Taxila) at an earlier period than elsewhere in India. The earliest specimens are struck only on one side, and by a method peculiarly Indian, according to which the metal was stamped while in a semi-molten state, with the result that impress of the die was left enclosed in a deep incuse square.[1]

It seems that the idea of giving inscription on coins was inspired by the inscribed Greek coins.[2] Sircar observes that even the earliest inscribed coins do not appear to be earlier that the Besnagar inscription of the end of the second century B. C.; and thus he is inclined to attribute the inscribed coins not earlier

1. Rapson, *IC.*, p. 14.
2. Sircar, D.C., *Age of Imperial Unity*, p. 159.

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than the first century B. C. But, this view is not acceptable because : 1. the Greek influence in India cannot be taken to start with Antialkidas whose ambassador was Heliodorus and 2. the palaeography of Negama coins is similar to that on the coins of Pantaleon (185-175 B. C.) and Agathocles (180-165 B. C.) and their technique was copied by these Greek rulers and hence the Negama coins cannot be later than these rulers. Rapson is inclined to date the Negama coins 'as early as the beginning of the fourth century B. C.[1] Buhler was in favour of placing them in the third century B. C.[2] and Cunningham attributes them to 'an early period of Greek rule'.[3] These coins were found at Taxila along with the coins of Agathocles and Pantaleon, a fact which helps the dating of these coins. A. K. Narain dates the two kings in c. 180-165 B. C. and 185-175 B. C. respectively.[4] Discussing the Negama coins, Allan observes that 'the epigraphy has been described (by Cunningham) as Asokan, but when we see how closely the Brahmi inscriptions of the coins of Agathocles resemble the Brahmi of Asoka, we realize how difficult it is to date these coins within fifty years. I am inclined to put them in the first quarter of the second century B. C. If any deduction is to be made from their absence from the well known hoard of coins of Taxila, Pantaleon and Agathocles, it is that they are later than these Greek rulers and not earlier'.[5] While agreeing in general with Allan in assigning these coins to the beginning of the second century B. C., it is not possible to accept these to belong to a later date than these Greek Princes. The two Greek kings, who were almost contemporary, not only imitated the square shape but also the incuse stamping of the local issues.[6] Dani confirms this by saying that 'this was only done to maintain the continuity of the local currency, and proves the earlier date of the Negama coins.'[7] We must allow at least a gap of fifteen to twenty-five years before it was imitated by the two Greek rulers, and thus the date of the Negama coins can be fixed to about 200 B. C. The

1. Sircar, *op. cit.*, pp. 2-3.
2. *The Origin of Indian Brāhmī Alphabet*, p. 48.
3. *BMC, AI.*, p. 65,
4. *Indo-Greeks*, p. 181.
5. Allan, *BMC, AI.*, p. cxxvii.
6. Rapson, *IC.*, p. 14.
7. Dani, *Indian Palaeography*, p. 60.

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similarity of the letter *ja* in the legend dojaka of the Negama coins on the one hand and in the coin legends of Agathocles and Pantaleon on the other does not allow much gap between the two.

As we have indicated earlier that though the technique of casting inscribed metal pieces was not new; the idea of the inscribing the name of the ruler, city, a guild on currency materialised for the first time in second century B. C. and experiments with the script in preparing moulds and incuse-stamps etc. are made. The superior craftsmanship of the Indo-Greek coins is evident in the Taxila coins of Agathocles and Pantaleon. On the other hand, the Negama coins, the coins of *Kada* and other cast coins are clearly poorer in execution and sometimes defective in legend also. For example on two *Kada* coins[1] the letter *sa* has not only been reversed but put upside down like instead of . Such casting error are also to been seen in Sohgaura Plaque where besides the reversed letter like *da* (first letter of line 2) we find reversed medial signs also. Here we will point out to the *i* medial to the letter *ha* in line 4 where it is like instead of .

Such casting errors have sometimes created much confusion. The reversed legend on the coin of Dharmapāla from Erana has led Buhler to formulate the hypothesis that Brahmi was first written from right to left.[2] It is strange that these scholars read the reversed legend correctly but did not recognize (or emphasize) the reversed forms of the individual letters. After tracing the legened Dhamapalasa from Allan's catalogue and by turning it over we get the correct reading. In its reversed form the *pa* of Brahmi looks something like *le*, and, *la* looks like *ha*. If we read correctly this reversed form from right to left it will read *Dhamalehasa* and even then we will have to ignore the peculiarties of the *dha*, *ma*, and *sa*. It is unfortunate that scholars like Buhler

1. *BMC, AI*, pl. XIX. 17 & 19.
2. Buhler, *Indian Palaeography*, p. 23; cf. also Allan, *BMC,AI*, p. 140.

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discuss the shape of the letters like *sa*, *dha* and *ma* of this legend[1] but ignored the reversed shapes of *pa* and *la*. Similar casting mistakes on some early Yaudheya coins, where *bahudhanyake* legend has been read as *kupradhanaba*,[2] can also be noticed.

Here we must emphasize that the legends on the coins are so short and the letter forms are so limited that it is not easy to say anything definitely about their paleography. But, however, it is always possible to recognise the letter forms and their association with the main current of the writing. On this consideration a palaeographic analysis of the letter forms shows that some coins can be attributed to the second century B. C. These are the coins of Agathocles,[3] Pantaleon,[4] Dharmapāla of Erana,[5] the Negama coins,[6] the coins bearing legends Udehika[7] Upagodasa,[8] Uptikya,[9] Vaṭaśvaka,[10] Kaḍasa,[11] Eraka(ṇya),[12] Tipuri[13] and some counter markings with the Brāhmī letters on the Persian and Indian coins.[14]

Here we must say something about the countermarkings. Rapson assigns some Persian and Indian coins countermarked with Brāhmī letters, to the fourth or fifth century B. C. on the evidence of original coins.[15] But Dani observes that 'the date of countermarking must be later than the time when these issues were current, as this practice is limited to a few coins and not seen at any later time. This fact makes the date considerably later than that given by Rapson.'[16] The letter forms on these coins also point

1. *Buhler*, op. cit., p. 23.
2. Allan, *BMC, AI.*
3. Lahiri, A. N., *Corpus of Indo-Greek Coins*, pl. II. 9.
4. Ibid., pl. XXVII. 11.
5. Allan, *BMC, AI.*, pl. XVIII. 6.
6. Ibid., pl. XXXI. 1, 2, 6, 7.
7. Ibid., pl. XXXV. 16.
8. Ibid., pl. XXXV. 18.
9. Ibid., pl. XXXV. 19.
10. Ibid., pl. XXXIX. 2.
11. Ibid., pl. XIX. 15, 17, 18.
12. *JRAS*, 1900, pl. VII. 17.
13. Allan, op. cit., pl. XXXV. 14.
14. *JRAS.*, 1895, pl. I. 1, 2-5, 6, 13, 14, 15-17.
15. Ibid.,
16. Dani, *Indian Palaeography*, p. 60.

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to a later date roughly corresponding with those occupying in the coins of Agathocles and Pantaleon.

But the situation in the first century B. C. entirely changed. After the downfall of the Mauryan empire the Śuṅgas had tried to control the inherited empire but disintergrating forces were so active and the local states were so anxious to become independent that the Śuṅgas had to confine themselves to Magadha and the vicinity. Probably Dhanadeva of the Ayodhyā inscription was the direct descendant of the Śuṅga family with their capital at Ayodhyā. The local chiefs became independent and thus feeling themselves competent enough to issue coins. In the north western region (western Pakistan) Indo-Greeks were politically active and they had evolved very advanced technique of coining money. The Greek letters were so symetrical and looked so nice on the coins that the native princes and tribes also tried to imitate them. They gave new face to the Brāhmī letters which was much nearer to the Greek letters. The verticals were reduced and the letters were made to look more square. The earliest Yaudheya coins are an attempt in this direction but a perfection was achieved by the Kuṇindas specially in the coins of Amoghabhūti. Thus the coins of the first century B. C. served as pioneers in the field of palaeography and at least for this period we can say that the coin legends were not conservative in this respect. The verticals of the letters *pa*, *gha*, *sa*, *ha*, and *sha* were equalised and the tops of the letters *ga* and *sa* and even of *ta* were curved. For the *o* medial a single line served the purpose and the rounded bottom of the letters *ma* and *va* were taking triangular shapes.

On palaeographic analysis we can assign the following series of coins to the first century B. C. :

1. The coins of the Árjunāyanas bearing the legend *arjunayanam jaya.*
2. The coins attributed to Kanauja by Allan.
3. Early Kauśāmbī coins.
4. Mathurā local coins before the advent of the Kshatrapas.
5. The coins of Rājanya and Trigarta *Janapadas*.
6. The early Yaudheya coins.
7. The coins of Śibi *Janapada*.

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8. Mālva coins bearing the legends *mālavānam jaya*, and *senāpatisa vachhaghosa*.

This century is also marked for the use of inscribed seals. These seals are personal as well as official. Some of the seals which can be attributed to the first century B. C. on the basis of palaeography are those bearing the legend Vasubhuti[1], Mālava janapadas,[2] Sahijitiya nigamesa[3] etc.

The palaeography of the first century A. D. is marked by the use of a new pen introduced by the Kshatrapas of Mathurā which influenced the Brahmi writing all over northern India. This pen style resulted in the triangular head formation. As regards the curve and the angularity of the letters this pen worked in two directions. While it curved the angle-top of the letters *ga* and *sa*, it angularised the curves of the letters *pa*, *ha*, *sa*, *sha* and *la*. The medial *i* also develops into a fine flourish. These features are noticeable in the coins of Kuṇindas, the Pāñchālas, the Vrishṇis, and the Audumbaras, in the later issues of Kauśāmbī, and in the coins discovered at Ayodhyā. These coins should be attributed to the first century A. D. or even later.

There is a general tendency to identify the kings with *mitra* ending names with some or the other Śuṅga rulers. Such coins have been found from a very extensive region. They are so divergent in nature and the names on them are so numerous that it is not possible to accomodate them all within a single dynasty. Moreover, it is not necessary that all the Śuṅga kings have *mitra* ending names. In the Śuṅga dynasty of Pushyamitra itself there are names without mitra ends. Dhanadeva in his Ayodhyā inscription claims to be a descendant of Pushyamitra but his name also does not end with *mitra*. In the view of the political situation of the first centuries B. C. and A. D. it is more likely that these rulers had their independent existence and their relation with the Sungas is not justifiable.

Before we end we must refer to a seal which has been published by S. C. Kala and referred to by K. D. Bajpai. Both

1. *Excavations at Rairh*, pl. XXVI. 21.
2. Ibid., pl. XXVI. 22.
3. *ASI, AR.*, 1911-12, pl. XVII.

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the scholars read the legend as Vaṅgapalasa but a close look at the legend shows that it can not be Vaṅgapalasa. The order of letters does not permit this reading. Of these letters traced down and reversed, the reading will be Hathipalasa. The characters of this seal may belong to the first century A.D. A coin bearing the legend Hathipalasa has been published by R. R. Tripathi. Which the author thought to be a corrupt form of Hastipurasya or Hastinapurasya. The reading of this coin may be revised to read Hathipalasa and this person may be regarded as the issuer of both the antiquities.

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The Palaeography of Local Coins of Western India

R. S. Mishra

Without expressing any objection to the classification of the 'local coins' into northern, western and central India for palaeographic studies, I would like to point out that the spatio-temporal limits of the said coin-series do not exhibit any regional variation. I will put this in other words : from the time of Asoka Indian scripts, i. e., Brāhmī and Kharoshṭhī, develop or rather evolve, on an almost monotonous line without undergoing any remarkable change upto the beginning of the Christian era. But with the Kshatrapas of Mathurā the Brāhmī script finds a new face through a 'new-pen' style which was very soon accepted throughout the northern India. During the time of the Kushāṇas the writing becomes so popular that it could remain no longer the singular affair of the kings—their royal officials and scribes. This popularity of script is revealed through the huge number of individual or non-official records of the Kushāṇa period. This had a great impact on the development of the script due to various hands involved in writing. Here we find the germs of the 'proto-regional' styles which became more distinct towards the close of the fourth century A. D. Hence in my considered opinion, it is not reasonable to split up the local coins (and most of the tribal coins also) into group as mentioned above, for palaeographic studies.

Among the local coins of Taxila we find three main series : 1. the Negama series,[1] 2. the Pañchanekama series[2] and, 3. the Hiraññasame series.[3] These coins bear legends in Brāhmī as well as in Kharoshṭhi scripts. As we consider palaeography an item of culture and its study must be made in cultural and political context, so we propose to study these two scripts together.

1. Allan, *BMC, AI*, Pl. XXXI. 1-6.
2. Ibid., Pl. XXXI. 11-16.
3. Ibid., p. cxxxii.

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The coins of the Negama series have the legend *negama*[1] in Brāhmī on the obverse and *dojaka* in Brāhmī[2] or Kharoshṭhī[3] on the reverse. On some coins this legend is replaced by the word *rālimata*[4] or *ata(ka)taka*.[5] The *pañchanekama* and *hirañasame* coins bear legends only in Kharoshṭhī script, the latter read by Allan as *Hidujasame*.[6]

These coins have variously been dated from the fourth century B. C. to the second century B. C. On this point we must consider some technical and palaeographical similarities of these coins with the coins of some Indo-Greek rulers, and then fix their dates. Allan rightly observes the *hidujasame* type of coins was imitated by Agathocles and says that "It is possible that we should attribute to Taxila the following coin as the original copied by Agathocles" :

Obv. A conventional representations of a plant; below in Kharoshṭhī, *Hirañasame.*

Rev. Star over Buddhist stupa. *PMC*, Pl. II. 51.

Agathocles copied the type, replacing the plant by a tree in railing on one side and retaining the star and mountain on the other, with his name in Kharoshṭhi below, *Akathukrayasa.*"[7]

Technologically also the incuse stamping on bilingual coin of Pantaleon[8] was an imitation of the local coins of Taxila, which according to Dani,[9] was done with a view to continue the traditional local money. Such incuse stamping is found in the Negama coins also. Palaeographically also these local series are not far away from the coins of these Indo-Greek rulers. The Brāhmī letter *ja* in *dojaka* legend closely resembles with the *ja* in the coin legends of Agathocles and Pantaleon. On these grounds it is clear that the local series from Taxila are not much earlier than the

1. Allan, op. cit., Pl. XXXI 1-6.
2. Ibid., Pl. XXXI. 6.
3. Ibid., Pl. XXXI. 2, 3, 4 etc.
4. Cunningham, *CAI.*, p. 64, Pl. II. 8.
5. Ibid., Pl. II. 11.
6. Allan, op. cit., p. cxxxi,
7. Ibid., and for plate, see, Rapson, *IC.*, Pl. I. 16.
8. For fig , see, Rapson, *IC.*, Pl. I. 12.
9. *Indian Palaeography*, (1963), p. 60,

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bilingual coins of these Indo-Greek rulers. A. K. Narain dates these rulers in c. 180-165 B. C. and 185-175 B. C, respectively. On this point we must quote Allan once again : 'I am inclined to put them (negama coins) in the first quarter of the second century B. C. If any deduction is to be made from their absence from the well known hoard of coins of Taxila, Pantaleon and Agathocles, it is that they are later than these Greek rulers and not earlier.'[1] But we can not agree with Allan in dating these local coins to a date later than these Greek rulers because the original must come before the imitation.

As regards the palaeography of individual letters we have following observations :

Brāhmī :

The letter *ga* in angular, *na* has a longer vertical than the horizontal, the lower circle of *ma* is perfectly round, *ka* is a cross with its vertical longer, the middle curve of *da* is somewhat angular with its opening to the right and *ja* has a hollow knob in the middle instead of a line. This means that all these letters continue the Asokan forms.

Kharoshṭhī :

Similarily in the Kharoshṭhī legend also majority of the letters continue the Asokan form of the writing. The letters *ka*, *cha*, *ja*, *da*, *na*, *pa* and *ma* are of the Asokan type. But the letter *cha* has got another variety which is not found in the inscriptions of Asoka and is a new development of the older variety. This variety is like [2] instead of the older one which is like

1. Allan, op. cit., pp. cxxvii-cxxviii.
2. Ibid., pl. XXXI. 11.

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Bearing of the Local Coins on the History of Northern India

P. L. Gupta

A large number of coins are known from various sites of Northern India, i.e. Uttara Pradesh and its adjoining areas in Rajasthan towards the west and in Bihar towards the east, which was broadly known as Madhyadeśa in ancient days. These bear inscriptions and are mostly of copper. These coins are known amongst the numismatists as local coins. So far we know them as follows :—

1. At Varanasi, from Rajghat, two stray coins were found, which bear the legend *Baranasi* on one side, The other side of one of them also bears a legend, which is not clear; only two letters *ta sa* can be made out towards the end. They suggest that there was some personal name which in all probability ended in *mitra* (*Mita*). A coin bearing the name *Yuga Sena* was found at Bairanṭ, about 16 miles north-east of Varanasi. Very much similar three coins are published by Allan, where he reads the legend as *Puṅgasenasa;* but Altekar considers it to be *Yugasenasa*. So all these coins might belong to one and the same ruler, but the provenance of Allan's coins is not known. From the site of Bairanṭ another coin was picked up by Carlleyle, which had the legend *Jyeshṭhadattasya*. Similar coins are also known in the Indian and British Museums; but their provenance is unknown. Cunningham, however, had a coin of the same type from Indor-Khera in Bulandshahar district.

2. Kosam (ancient Kausambi, the capital of Vatsa) has yielded coins, which like Varanasi coins, bear the name of the city of Kausambi as *Kasabikanan, Kasabi, Kasabiya* or *Kosavisa* with a number of varieties. Besides the coins with the city name, large number of coins, bearing the personal names of the rulers have been found from this site, They are : Agrarāja (Agarāja), Vavaghosha, Aśvaghosha, Parvata, Indradeva, Sudeva, Mitra, Radhamitra, Agnimitra, Jyeshṭhamitra, Brihaspatimitra, Suramitra, Varuṇamitra, Pothamitra, Sarpamitra, Prajāpatimitra, Satyamitra,

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Rājamitra, Rajanīmitra, Devamitra, Rāmamitra, Priyamitra, Iśvaramitra, Jyeshṭhagupta, Suṅgavarma or Pugavarma, Hathipara, Gadhia, Bhadra-magha, Vaiśravaṇa, Śivamagha, Śatamagha, Vijaya-magha, Puramagha, Yugamagha, Bhīmavarman, Navika, Pushvasri, Dhanadeva, Rudra and Sachabhadra or Satyabhadra.

3. Ayodhya, the capital of ancient Kosala, has yielded coins bearing personal names of Mūladeva, Vāyudeva, Viśākhadeva, Dhanadeva, Pathadeva, Śivadatta, Naradatta, Jyeshṭhadatta, Kumudasena, Ajavarma, Saṅghamitra, Vijayamitra, Satyamitra, Devamitra and Áryamitra.

4. Sahet-Mahet, the ancient Sravasti, has not yet been fully explored for its coins; but the few coins that are known to have come from there, reveal that in all probability, it had its coin bearing the name of Sravasti. The available coins are all cast ones and the legend part is altogether blurred. Some coins issued in the personal name of the ruler also appear to have issued from here. Coins bearing the name of Śivadatta have been found here.

5. Coins bearing the name of Śivadatta, Haridatta and Śivapālita were found near Almora and were presented to Sir Henry Elliot, from whom they passed to Clive Bayley and are now in the British Museum. Allan on the basis of the find spot attributes them to Almora; but I have very much doubt about Almora being the place of their origin.

6. Ahichchhatra, the capital of ancient Pāñchāla (modern Ramanagar in Bareilly district) has produced coins bearing the name of a large number of rulers : Viśvapāla, Vaṅgapāla, Yajñapāla, Dāmagupta, Rudragupta, Jayagupta, Rudraghosha, Bhadraghosha, Vasusena, Yugasena, Sūryamitra, Phalgunimitra, Bhānumitra, Dhruvamitra, Agnimitra, Vishṇumitra, Jayamitra, Indramitra, Prajāpatimitra, Varuṇamitra, Aśvamitra, Bhūmimitra, Anumitra, Bṛihaspatimitra, Ayumitra, Viśvamitra, Śivanandī, Achyuta.

7. Coins bearing the name of Brahmamitra, Sūryamitra, and Vishṇudeva, which are all very much similar and appear to belong to one dynasty have been placed under Kanauj (ancient Kanyakubja) by Allan, since the coin of the last ruler, which was in Prinsep's collection found at Kanauj.

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8. Mathura, the capital of the ancient Surasena (janapada, have yielded coins bearing the names of Gomitra, Suryamitra, Brahmamitra, Dhruvamitra, Dṛiḍhamitra, Vishnumitra, Satyamitra, Śeshadatta, Purushadatta, Uttamadatta, Rāmadatta, Kāmadatta, Bhavadatta, Balabhūti, Mahkshatrapa. Rajuvula, Mahākshatrapa Śoḍas, Kshatrapa Toranadasa, Kshatrapa Hagāna, Kshatrap Hagāmasha, Kshatrapa Śivadatta, and Kshatrapa Śivaghosha.

9. In the excavation at Rairh in Jaipur district of Rajasthan, some coins were exposed, which bear the names *Senāpati Vachhaghosha, Udehahaki, Suyamitasa, Sudavapa, Suyamitasa, Sudavapa Dhuvamitasa, Brahmamitasa* and *Dhuvamitasa*. Coins bearing the name *Udehaki* relating to the coins with legend *Udehaki Suyamitasa* is known in the British Museum, of which provenance is not known.

The above list is by no means exhaustive nor final. While some localities like Kauśāmbī and Ahichchhatra were being frequently hunted by the antiquity collectors, others have found little attention at their hands. While vast new material have been added to our knowledge from Kauśāmbī and Ahichchhatra since the publication of Allan's *Catalogue*, we have added little about Ayodhya and Mathura. So, it is difficult to say that we have a complete list of issues from different localities. Nor we are in a position to say definitely that all the coins, listed above under a particular locality necessarily belong to them. They are grouped here merely on the basis of their find in that particular locality or the discoverer had placed them under that locality for the reasons of his own.

Predominance of a particular coin, its fabric and typology can only be the main criteria for the attribution of these coins to any particular locality. Mere find of a coin or two at a place, does not necessarily show that it originated there. It would be wrong to presume that copper coins never travel far from the place of their origin. Many coins belonging to Ayodhya series are known from Kauśāmbī. A number of Pāñchāla coins are known from many places in Eastern Uttar Pradesh and were located in the excavations at Pataliputra. I have expressed my doubts about the coins listed under Almora in being the coins of that place. I

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take them to be the coins of Sravasti. Similarly the coins found at Rairh are very much related to Mathura series. So they may not be the local coins of Rairh. The coins of Priyamitra, Jyeshṭhagupta and Śuṅgavarmā (or Pugavarmā) found at Kauśāmbī do not appear to me to be coins of that locality. While I am not in a position to suggest the locality of origin of the coins of Priyamitra and Jyeshṭhagupta, there is no doubt that the coins of Śuṅgavarmā (or Pugavarmā) relate to the coins of Kanauj. K. D. Bajpai, instead of attributing this coin to Kanuaj, suggests that all Kanauj coins belong to Kauśāmbī. He has ignored the fact that the fabric and type of the coins of Śuṅgavarmā (or Pugavarmā) and the coins attributed to Kanauj bear three symbols at the top, very much in the same way as the coins of Ahichchhatra. This similarity tends to suggest that they are interrelated. I am therefore inclined to suggest that these coins might belong to Dakshiṇa Pāñchāla or Jangala, whose capital was Kāmpilya and covered the region around Kanauj.

This is not the place to discuss in detail the symbology of these coins and their attribution; but keeping in view all the facts it may be suggested without contradiction that there existed local states at Varanasi, Kauśāmbī, Ayodhyā, Sahet-Mahet (Sravasti), Ahichchhatra, Kampilya and Mathura.

Now the first question that confront us regarding the history of these local states is as to when they originated and how long they existed. To answer this question, we should go back to history itself. The Mauryan empire under Aśoka extended from the foot of the Hindukush to the borders of Tamiladeśa. The withdrawal of the mighty emperor was the signal of the disintegration of the empire though it did not end with him. He died in about 232 B.C. and seven kings followed him in regular succession for about a period of half a century. No detailed accounts of those kings are known; but it may well be assumed that the first three rulers—Kuṇāla, Daśaratha and Samprati had a peaceful rule; but at the same time in all probability, they did not have their stronghold over distant provinces. After them, perhaps during the reign of Śāliśūka (later than 204 B.C.) or soon after him (*circa* 204 B.C.), the Greeks of Bactria began to pour across the north-western gate of the empire and the Punjab fell into

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their hands. They soon invaded the Madhyadeśa and the Mauryan empire crumbled into pieces.

As the *Yuga Purāṇa* narrates the events, the Greeks did not stay for long in the country and it was left in a chaotic condition. This was a quite suitable occasion when the spirit of local autonomy amongst the provincial governors and other officers or the people themselves instigate them to declare their independence and disintegrate the empire. And we find that while north-western province and the western Punjab was annexed to Greek kingdom, a number of tribes of the Punjab asserted their independence. It is most likely that at this juncture the people or the provincial governors and officers of the Madhyadeśa too revolted against the centre and carved out kingdoms of their own. And the 'local coins' that we have described above belong to them and their successors.

The beginning of the local states of Northern India may thus be placed towards the end of the third century B. C. In the present state of our knowledge, we cannot be precise about the date. Relying on the statement of the *Yuga Purāṇa*, the beginning of these states may conveniently be placed in *circa* 304 B. C. But it may not be acceptable to all; so I had accepted the date *circa* 215 B. C. as the beginning of these states for the purpose of calculation in the paper that I had submitted in 1960 to the seminar on the problem of the date of Kanishka at the School of Oriental and African Studies, London. It is not very much material, which of the two dates is accepted. Both are tentative and are not far away from each other.

The coins in the Mauryan period were all either silver punch-marked coins or the uninscribed cast coins. It is only after them, we have the inscribed coins; which may be placed in their continuation on the basis of the continuity of symbols in some form of the other. How and why inscriptions found place on the coins, we cannot say. But it is not unlikely, that the idea was borrowed from the coins of the Indo-Bacterian kings. The earliest inscribed coins are those that were issued by the tribal republics of the Punjab, who bordered the Indo-Bacterian kingdom, from the coins of these tribal republics, in all probability, the adjoining territories of Madhyadeśa picked up the idea. This fact also lends support to our attribution of the local coins to the post Mauryan period.

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The coins reveal that in the northern and central India, there were no tribes, who could take the power in their hands. But at the same time, we notice that the earliest coins in these parts are those, which bear the name of place only. These coins in the Central India bear the names of the cities like Erakanya, Ujjaiyinī, Tripurī, Bhāgila and Māhishmatī. In the same follow we have in the northern India the coins bearing the names of Vārāṇasī, Kauśāmbī and probably also be Śravasti. These suggest that the power from the Mauryan emperors passed not to any individual, but some sort of a corporate body. This might have been something like a city-state.

But probably this kind of administration did not last long and within a generation, in all likelihood, it passed into the hands of individuals. But the individuals on the beginning did not dare to emphasise their own power. We have the coins of Suryamitra and Dhruvamitra associated with the place name Sudavapa on some coins. Similarly we have the coins of Suryamitra with the territorial name Uddehika and of Gomitra with the name Raya. Coins from Varanasi also had the name of the ruler, which ends in *tasa*. But this was just a changing phase, as we have independent coins of Dhruvamitra and Gomitra, but in all probability for a decade or two this kind of administration lasted at some places and then monarchy prevailed in all the local states of the northern India. The beginning of the monarchy may be placed in the beginning of the second century B. C. With the beginning of monarchy in all probability the kingdoms at Varanasi and Sravastī lost their identity. Vārāṇasī might have merged with Kauśāmbī and Śravastī with Ayodhyā; but this is just a surmise. Nothing can be suggested definitely in absence of adequate evidence.

Kausambi, Ayodhya, Ahichchhatra and Mathura have a long list of rulers and Kampila had only a few. So the latter might not have been in long existence; but the others had a continued chain of rulers. Among the rulers attributed to Kausambi, Ayodhya, Ahichchhatra and Mathura, there may be doubt about the existence of a few of them. But so far name in the Ayodhya and Mathura series seems doubtful. In Ahichchhatra series, K.D. Bajpai doubts the existence of Viśvapāla, who is suggested by Allan. He takes him to be misreading of Vaṅgapāla, who is well known

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from other coins. Similarly, Viśvāmitra, seen by V. S. Agrawal on a Panchala coin in the Lucknow Museum, might be the misreading for Vishnumitra. In Kausambi series, I have already excluded the names of Priyamitra, Jyeshthagupta and Suṅgavarma (or Pugavarma). Sachabhadra or Satyabhadra should also be excluded, as the fabric of the coin clearly tends him to be the ruler of Malwa region. Hathipara and Gadhika should also be excluded from the list for the present. They might not be the names of rulers. Bajpai takes *Hathipara* for Hathipala, a personal name, while Tripathi, who has published it suggests it be a place name. The coin bearing the legend *Gadhikanam* according to Bajpai is the coin of the guild of perfumers. Even after excluding all these names, the list is fairly long for all the series. Besides the names known from the coins, a few names are known from inscriptions and if they are added to the list, the list would be still bigger.

Twenty-one rulers are known from the coins for Mathura. Two or three names may be added to them from inscriptions; but I would not take here any notice of them. These rulers may clearly be distinguished into three groups : (i) The Mitra rulers (ii) The Datta rulers and (iii) The Kshatrapas. Their coins distinctly show a close affinity between each other and as such no break could be suggested in between the groups. There was a continued rule for generations.

Twenty-nine rulers are known from the coins of Ahichchhatra. They may be distinguished as (i) Pāla rulers, (ii) Gupta rulers, (iii) Sena rulers, (iv) Mitra rulers, (v) Nandi rulers, and (vi) Achyuta. There is nothing to show if the rulers of these groups had their separate identity as dynasties or otherwise or all of them belong to one and the same dynasty and they used the surnames indiscriminately. However, there are indications that one of the Pāla rulers was earlier than the Gupta rulers. Nandi rulers appear to have existed at the end of the series and Achyuta was the last ruler of Ahichchhatra.

15 rulers are known from the coins of Ayodhya. In an inscription found at Ayodhya. we find mention of a king Dhanadeva (in all probability the same as known from the coins) the son of Phalgudeva, who claims himself to be the 'sixth' of the *senāpati*

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Pushyamitra, the king of Ayodhya and the performer of two *aśvamedhas*. The title *senāpati* was borne by Pushyamitra Śuṅga and his *aśvamedhas* are well known from the *Mahābhāshya* and the *Mālavikagnimitra*. So the inscription undoubtedly refers to him. Since Dhanadeva's name does not appear in the Puranic list of Śuṅgas, it may well be assumed that he was only some scion of the Śuṅgas. If the word 'sixth' in the inscription meant 'sixth in generation we may take that five generations before Dhanadeva his family had some relations with the Śuṅgas. Incidently, *Harshacharita* informs us that one Mūladeva (who may be Mūladeva of the coins) killed Sumitra (Vasumitra) the son of Agnimitra. All these taken together suggest that Śuṅga territory of Ayodhya was usurped by Mūladeva in *circa* 130 B.C. Now onward sixteen rulers (including Phalgudeva whose coins are not known) rule independently at Ayodhya. The sixteen rulers belonged to three groups (i) Deva rulers, the scions of the Śuṅgas (ii) Datta rulers and (iii) Mitra rulers and a few others who have not common surname. The coins of these rulers suggest that they belonged to distinct dynasties; but at the same time, there was no gap between them.

From Kausambi we have 34 rulers. Of them, leaving aside a few early rulers, the rulers may clearly be distinguished into two groups : (i) Mitra and (ii) Magha.

Now, coming to the extent period of rule in various kingdoms, it may be first pointed out that the average of the generations of various dynasties of India of historical period show for them an average varying from 21 to 31 years. Only one or two dynasties are known to have the generation's average a little less than 20 years. Yet a still lower average of 18 years, I propose for the rulers of these kingdoms, in view of the obscurity of the history of the period.

Now with the average of 18 years for each, if we look to the kingdom of Ahichchhatra, we would see that 29 rulers ruled without any intervention for about 522 years. If their rule began in 216 B. C., as suggested above, then they ruled till about 306 A. D. We know definitely that Achyuta, the last ruler of this place was uprooted by the Gupta emperor Samudra Gupta in *circa* 350 A. D. In view of this, our calculation is short by 44 years. But this can

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well be accounted. Not unlikely, a few more rulers were there, of whom we have no coins, inscriptions do suggest such a possibility. Or our average might be too low in their case of that the initial date might not be as early as we think.

With the same average of 18 years for each generation, 34 rulers of Kausambi ruled for 612 years. If their rule began in 216 B. C., they ruled upto 396 A. D. Here again we know that a king called Rudra was defeated by Samudra Gupta. This Rudra may well be identified with Rudra of the coins. As such, our calculation is short by 46 years. Not unlikely some of the rulers, in the list do not belong to Kausambi.

With the same average of 18 years for each ruler, the 21 rulers of Mathura would have ruled for about 378 years. If their rule began in 216 B. C. they ruled till about 152 A. D. We know that Mathura was the stronghold of the Kushanas and his successors. In view of the existence of the local rulers till 150 A. D. it is clear that Kushanas could have occupied Mathura only after this date. This fact cannot be ignored when a date for Kanishka is suggested. In this connection, it may be pointed out that the date 144 A. D. suggested by Ghirshman is very near to our conclusion.

This date for Kanishka is further supported from the data available at Ahichchhatra and Kausambi. The excavations conducted at Ahichchhatra in 1940-44 show that in the lower strata VIII and VII, square and round cast coins were found. The coins of the local rulers were found in the strata VI and V and they were followed by Kushana coins and Kushana imitations in stratum IV and in the earliest layers of stratum III were found the coins of Achyuta, whose date is fixed in *circa* 350 A. D. It is generally believed that the Kushana imitation coins were popular issues for about a century after the Kushanas. It means that Kushana and imitation Kushana coins taken together covered a period of about 200 years before 350 A. D. This shows that the Kushana coins would have appeared only in *circa* 150 A. D.

The excavation at Kausambi show that in the lower strata are found the coins of the Mitra rulers and above them are found the coins of the Maghas. In the early stratum bearing the coins

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of the Maghas, the Kushana coins are also found; but they are exclusive to that stratum. This means that after the rule of 21 Mitra rulers, Kushanas appeared in the Ganga-Ynmuna valley, i. e. 378 years after their rule, i. e. about 152 A. D., the same as we know from the evidence at Mathura.

The fifteen rulers of Ayodhya ruled for 288 years from the date of the usurpation of the Śuṅga power in 130 B. C. i. e. upto 158 A. D. The Kushana coins are found mixed with the Mitra coins of Ayodhya in a number of hoards. They indicate that Kushanas would have come there only later than this date.

Thus the coins show that after the fall of the Mauryas, local dynasties ruled at Mathura, Ahichchhatra, Kausambi and Ayodhya and they had an uninterrupted rule till the advent of the Kushanas and the entry of the Kushanas in Mathura cannot be placed earlier than circa 150 A. D. They also show that the Kushanas had little or no effect over the kingdoms of Ahichchhatra and Kausambi.

Lastly, it may be also pointed out that almost all the four kingdoms of Mathura, Ahichchhatra, Kausambi and Ayodhya have a number of kings bearing the *mitra* ending names and sometimes even the same names. No chronology of the kings is possible in the persent circumstances; but it appears that if a chronology could be built up for each kingdom and they are synchronised, in most cases the kings of different territories having the same name, would prove to be contemporary. It is not improbable that different kings having same name may rule in the same period in different territories. Had it been the case of one or two names or one or two territories, we might have accepted it as an exception. But when we find a number of kings of the same name and in the same period belonging to different but adjoining territories, we cannot ignore the fact easily. This may be taken to mean, in the absence of any evidence to the contrary, that though the different territories had their independent coinage, they were inter-related politically; and the rulers, known from the coins of different places but having the same name, were identical and were ruling over the entire land.

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The Bearing of Excavations on the Chronology of the Local Coins of Central India.

M. D. Khare

Quite a few sites in Central India have been excavated very extensively and some of them have yielded local coins bearing legends of the name of the city or of the kings and are mostly confined to the stratified deposits of c. 3rd *cent.* B. C. to 1st *cent.* B. C. Evidence from Tripuri, Maheshwar, Eran, Ujjain and Besnagar are dealt here sitewise.

Tripuri coins :

They are thick circular cast copper coins, weighing 72. 94 and 130 grains and displaying 'the finest workmanship and technical skill". These have on the obverse a crescented hill, a hollow cross and the legend *Tripuri*—reverse being blank. The lead coins of Chandra weighs 6 grains, having a diameter of ½". The obverse carries the legend *Ch* (*va*) *da* and the traces of *Ujjeni* symbol on the reverse. The above mentioned four coins have been found associated with a lead coin of *Siri* Satakarni I/II and punch-marked coins, besides the buff-slipped and red-glazed *wares*. The associated finds of Period IV are punch-marked coins, Kaolin ware and terracotta figurines of Andhra and Kushana affinities.

Thus both on the strategraphic as well as palaeographic grounds the coins of Tripuri have been dated to 3rd *cent.* B. C and Period III and *Yadhanasa* from Period IV are considered by the excavator, as belonging to some local rulers of Tripuri. Recent excavations have also yielded a coin of Tripuri state from Period I, and is dated to 3rd *cent.* B. C.

Maheshwar, situated on the bank of Narmada, yielded two unstratified coins of the city of Mahismati. Both these coins collected by Wakankar are rectangular in shape and come from the surface of the Mds. I and V of Maheshwar. These weigh 74.5 and 93.3 grains. The obverse of the former has a standing male figure, a pellet with four crescents around, surmounted

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by an indistinct symbol. The legend below reads : *Mahismati.* The reverse has indistinct symbols. The *second* coin from *Md.* V has on its obverse tree in railing, horse, river with fish, Ujjain symbol, and "probably an inscription in three letters reading from left to right *Ma* (*ha*) *sata*. The reverse carries Ujjain symbol with some other indistinct symbol. On the basis of palaeography these have been dated to c. 3rd century B. C.

A coin recovered from the stratified dig at Navdatoli and published by Dr. Trivedi[1], does not appear to be a city-state coin as stated by Dr. Sankalia[2], because of the difference in size, weight and symbols. The strategraphic position of the coins from Eran and Ujjain is not yet known in details as the reports have yet to be published. However, on the basis of short reports published in *Indian Archaeology-A Review*, an attempt is being made to correlate them.

Eran—Period II (a few centuries before the B. C.) and III (a few centuries of A. D.) of Eran yielded a large number of coins in the excavations. The associated finds of Period II are iron and stone objects. N. B. P. ware sherds from the upper most levels, beads, terracotta human and animal figurines, punch-marked and cast tribal copper coins, along with a circular lead piece bearing the impression of a die, the legend on which reads *Rano Indagutasa* (in Mauryan Brahmi). Inscribed copper coins with a legend *Erakanya* or Erakana[3] have also been recovered from this period and are datable to 2nd-1st cent. B. C. These coins exhibit a semi-circular design, a crescent, *svastika*, tree within railing, *dharmachakra*, bull and the Ujjain symbol along with the legend.

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1. Dr. H. V. Trivedi, Coins of the city of Mahismati *JNSI*, XVII pp. 94-95 also see *JNSI*, XII, pp. 71-75, XIII, Part I, p. 74 and XV, pp. 70 ff.

2. Sankalia, Subba Rao, Deo, *Excavations at Maheshwar & Navdatoli*, p. 78.

3. It is the ancient name of Eran. In 3 stone inscriptions found at Eran, the name Arikina (Prakrit Erakanya) was applied both to the region and its capital town". K. D. Bajpai, *Sagar through the Ages*, p. 8.

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Ujjain :

At Ujjain,[1] Period II has been dated fram 500-200 B. C. and Period III, 200 B. C. Its cent A. D. coins bearing the legend *Ujjeni* come from the mid-level of Period II. The associated finds of this period are punch-marked coins, one of them of silver (from lower levels), N. B. P. ware, iron objects, bone arrowheads, terracotta figurines and beads. Two inscribed ivory seals have been recovered from the upper levels of this period and are datable to 3rd-2nd century B. C. One of them has Ujjain symbol on it. Only three coins of Ujjeni legend, wheel and palm-hand are depicted on the obverse, while elephant and Ujjain symbol on the reverse. Their weight is 3·66, 3·72 and 4·97 grams, having a dia. of 12 mm. These have been dated to 3rd-2nd cent. B. C.

Vidisha :

Although the number of coins recovered from the Besnagar excavations is more than 300, there is only one coin bearing the name of the city from Period II (6th-3rd cent. B. C.) which is distinguished by the occurence of terracottas, beads of stone and terracottas, charred wheat, N. B. P. ware and several punch-marked coins.

The coin of Vidisa city recovered from the top level of Period III, is a thin circular copper, weighing 1 gram and 1·4 cms. in dia. with *vedisa* legend on the obverse and a wheel on the reverse. On the basis of the stratigraphy and Palaeography, it could be dated to 3rd-2nd cent. B. C.[2]

Inspite of the fact that the evidence of the local coins as recovered from excavation, is scanty, it can be said with certainty that a number of cities issued coins in Central India in the 3rd-2nd cent. B. C. Such coins are rare in the strata ascribable to the first-second centuries when the cities possibly stopped issuing of the city coins. Another interesting feature is that these local coins were possibly in circulation only within the limits of the

1. Information from Dr. N. R. Banerjee and Shri N. C. Gosh.
2. The Carbon-14 dating for the N. B. P. ware deposits (Period II) of Besnagar is 470—150 B. C. Dr. K. D. Bajpai and Shri B. C. Jain had acquired some coins bearing the legend *Vedisa* from Vidisha.

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respective cities, as generally no coin belonging to one city, at least in central Indian cities, has been found in other locality. The only exception is a Mahismati coin published by Ramachandran (*JINS* XIII) reported to have been found at Ujjain. Since this coin was collected from the river bed, its evidence has to be viewed with caution. All the coins of local cities have been found in association with punch-marked coins. As to who issued these coins, the guilds or the kings, cannot be proved from the excavations and if the king also did so, whether they had any commemorative, or religous significance cannot be determined on the basis of stratigraphic data.

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Chemical Composition of some Local Bronze and Copper Coins from Northern India

H. C. Bhardwaj

Chemical composition of ancient coins is of general interest to the scientist concerned with ancient materials, nevertheless, this knowledge should be of particular interest to the numismatists, the archaeologists, the curators of the museums and the historians of the ancient arts and sciences.

This branch of numismatics has not received much attention and has been generally ignored. Only a few analyses of copper and bronze coins of known attribution have been published. Sahni[1] could not report on the chemical composition, for the want of facilities.

Three coins were recently analysed by me. The description of the coins and result of their analyses are reported below ;

Rajghat Coin

This uninscribed coin is from the late levels of the sub-period I. C. (dated from 400 B. C. to 200 B.C.) of Rajghat. All the strata 24, 23, 22, 21, 20 and 19 have been assigned to this sub-period. The reported coin is from the stratum 20 of this sub-period. Roughly it can, therefore, be placed somewhere in between 300 B. C. to 200 B. C.[2]

Description :

Rectangular, 15.9 mm. × 14 mm., wt. 44 grains (2.85 grams), Thickness 3 m.m.

Obverse : Elephant with rider, standard and two unidontifiable symbols.

Reverse : Tree in railing, hollow cross, crescent on hill and taurine.

1. Shahni B., *The Technique of Casting Coins in Ancient India, p. 11.*
2. Information supplied by Mr. T. N. Roy.

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Chemical Composition of the Coin :

Copper	...	86.90 per cennt
Tin	...	7.83 ,,
Iron	...	1.50 ,,
Nickel	...	1.07 ,,
Lead	...	0.83 ,,
Sulphur	...	Trace
Arsenic	...	Trace
Oxygen by difference		1.87 per cent
		100.00 per cent

From the figures of analysis, it is clear that it is a bronze coin, where it has been added deliberately. Other elements, viz. iron, nickel and lead are the main impurities. Sulphur and arsenic are present in trace quantities only. The presence of sulphur may indicate that copper pyrites (sulphide ore of copper) have been used for the extraction of the metal. The presence of nickel might indicate indigenous ore.

Metallographic Examination of the Coin :

The mettallographic examination of the coin shows that it is a cast coin. At high magnification coring is clearly visible, due to the segregation of tin on solidification.

Inference :—

The chemical composition of this coin throws light on the metallurgy of the period (400 B. C. to 200 B. C.). Alloying of copper with about 8 per cent of tin would be quite a suitable composition from the point of view of hardness and strength. It would also reduce the melting point of pure copper to some extent and would also facilitate in casting process.[1]

The analysis shows the prevalence of bronze coins during the period (400—200 B. C.).

Coins with almost similar attribution are reported from Kausambi, SP III-14 (225 B. C.—185 B. C.)[2] Prakash and

1. Coghlan H. H., *Notes on the prehistoric metallurgy of copper and bronze in the old world*, 1962, p. 44.

2. Sharma G. R., *The excavations at Kausambi* (1957-59), p 82.

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Rawat[1] have reported on its chemical content, which shows that the coin is a copper-lead bronze in which lead is as high as 16.33%. This divergence in the metal content of Rajghat and Kausambi coins despite similarity in their symbols, may indicate different place of their issue.

Mathura Coin

Ramadatta

Description : This belongs to 1st cent. B. C.
Round, diameter 21. 9 m.m. ;
Thickness 3.7 m m.
Weight 145.6 grains (9.44 gram)

Chemical composition :—

The result of analysis below would show that this coin is of unalloyed copper. Tin is completely absent. Iron, nickel, lead and sulphur are present as impurities.

Result of Chemical Analysis :

Insoluble	0.86 per cent
Copper	95.27 ,,
Sulphur	0.50 ,,
Iron	0.85 ,,
Nickel	0.98 ,,
Tin	Absent
Lead	0.25 ,,
Oxygen by difference	1.30 ,,
	100.00 per cent

Ayodhya Coin

Vijayamitra

Description : This coin belongs to 2nd—1st cent. B. C.
Oblong, diameter 21.3 ;
thickness 3.7 mm.
Weight 113.09 grain (7.38 gram).
Insoluble 0.57 percent

1. Prakash S. and Rawat N. S., *Chemical Study of some Archaeological Antiquities*, Serial No. 1, p. 74.

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Result of Chemical Analysis :

Copper	94.77	,,
Iron	1.20	,,
Nickel	Absent	
Tin	Absent	
Lead	Trace	
Sulphur	0.48	per cent
Oxygen by diff.	2.98	,,
	100.00	;,

From the figures of analysis given above it is clear that the coin is made of unalloyed copper. Usual impurities of iron, lead and sulphur are present. Nickel even in traces is absent, its absence might be significant and might mean a different provenance of the ore used for making the coins.

It might be concluded that the earlier uninscribed coins from Rajghat and Kausambi were bronzes (alloyed with tin and lead respectively), those of Mathura and Ayodhya are unalloyed. Further the ores of copper for the coins of Mathura and Ayodhya look to have come from different sources. Further, reverting from bronze to copper coinage might show short supply of tin ores during the circulation of the Mathura and the Ayodhya coins in question.

The presence of iron and sulphur in all the coins, indicates that sulphide ores have been smelted for obtaining the metal.[1]

1. Tylecote R. F., *Metallurgy in Archaeology*, 1962, p. 22.

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Economic Background of the Post-Mauryan Currency

Balram Srivastava

It is for numismatists to dispute over the nomenclature of the tribal coinage. This distinction does not poses any currency problem, to a student of ancient Indian economics mostly because both the currency systems originated in a similar economic circumstance, created out of Post-Mauryan chaos. Trade and Commerce had taken deep root in the economic life since the time of Panini and the Jatakas. During the regime of the Mauryas, it remained no longer a private enterprise, but states also took part, in the trade activities. The Mauryas controlled the different aspects of commercial activities of the people by appointing a number of officials, such as Panyadhaksha, Pautvadhyaksha, Sulkadhyaksha, besides many others who supervised the store houses of different commodities and industries. Side by side the currency was also taking root in economic life, for trade is closely related with the medium of exchange. The currency system of the Mauryas, as indicated in the Arthasastra[1] and by the actual finds of silver punch-marked coins, was considerably evolved and their rule may be regarded as the flourshing period of the punch-marked coinage. But the sudden fall of the Mauryan empire in the 2nd Century B. C. gave a shock to the progress of the trade as well as currency, though both by the time became indispensible for the economic growth. On the ruins of the imperial structure of the Mauryas there arose a number of local principalities, both republican or tribal and monarchical such as of Taxila, Panchala, Mathura, Kausambi, Ayodhya, Kanauj, Sravasti and Almora etc. bringing decentralization in politics as well as trade and currency. Due to the fall of the Mauryan Government, the trade-routes went under the control of more than one states which was very much detrimental to the free flow of the commerce. The North-Western extention of Uttarapatha, particularly beyond Taxila was under the hostile aliens i. e. Indo-Greeks and due to that the perenial source of silver, the Balkh region was almost stopped. This crisis s

1. Arthasastra, II, 12-27-30.

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in the availability of silver to support a large scale currency system was felt even by the descendants of Asoka, who may be considered as issuers of the copper punch-marked coins, now found very rarely.[1] The rarity of copper punch-marked coins indicates the instability of the Mauryan Government in the last quarters of the 3rd cent. B. C. and the 2nd cent. B. C. But they introduced copper in Indian currency-system, which was acceptable to the later Governments also for at least three or four centuries to come. It may here be pointed out that the copper issues of post-Mauryan Governments were very much useful for day to day exchanges, while the old issues of silver punch-marked coins of the Mauryas also remained current in the market for some time and was found useful for the transactions of business of high-price-commodities.

In the absence of any central authority, like of the Mauryas the local monarchs took lead in matters of currency and trade and thus they issued copper coins, which were particularly suitable to support the local trade and commerce and was also useful to to their state dealings. But while there was similarity of metal in their respective coinage and probably in their weight-system[2] also. There was no uniformity in the symbol composition of their coinage and by having this distinction they probably expressed their political individuality as well as the territorial usefulness of their coinage. They also represent the territorial characteristic of the trade and commerce of which their coins served as the metallic media of exchange. But in the local states, where the trade was in flourishing condition and had extra-territorial characteristic, their coinage also had the symbols of extra-territorial influence, which were popular in trade life. It may here be pointed out that the symbols on coins should not always be taken as religious or mystic. There is every possibility in most of the cases of their being what we may call as trade-mark, besides the political insignia of the issuing states. Its possibility of being trade-mark becomes more probable in the light of the fact that due to the fall of the central authority, trades of the time, as we see in

1. Due to the frazile nature of copper it is difficult to work on the metrology of copper coinage. See also Allan's view. A catalogue of Ancien India coins in the British Museum, p. CLXIII.

2. *Ibid* p. CXXXVI.

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case of the Negam series of Taxila[1] coins might have assumed the authority to issue coins, particularly to save their trade and commerce in a time of trouble in which the states in comparision to the Mauryan empire of the past, were weak and had limited territorial jurisdiction. It is also to be pointed out that even during the reign of the Mauryans, the authority of traders to issue coins was not completely band, but on the contrary the power of the Mauryan State was limited only to marking and testing the metal of coins through their officials like Lakshnadhyaksha and Rupadarshaka.[2]

A study of symbols on coins of respective Janapadas and tribes indicate that a part from their individualistic groupings, most of the local coins also show contact and borrowings. Such contacts are indicative of their trade relations. Thus the copper coins of Taxila indicate their influence on Ayodhya, both being important centres of trade of ancient India[3] The type III of Ayodhya shows close resemblence with the Taxila pieces bearing steel yard. The representation of steel yard on Ayodhya and Taxila coins is not without economic significance. The contact of Taxila and Ayodhya, the capital of Saketa is commerciably remarkable in more than one way. H. C. Bhardwaj in his paper has observed that the copper of Taxila and Ayodhya coins have no nickel and thus that might be imported. Indian copper is not without nickel. It seems that the source of Taxila coins was Iran and that was coming to India by way of Balkh. The Yavanas. had possession over that region and as they also conqured Taxila and later on Saketa,[4] therefore it can be presumed that some amount of Iranian copper was imported to Taxila and Ayodhya during the temporary domination of the Yavanas, and when they were ousted from Taxila and Ayodhya, the local rulers used for some time for their coinage the copper deposits brought by probably the Yavana traders. Allan has noted that copper currency of Taxila was short lived hence had influece on Ayodhya coinage marginal or

1. Arthasastra II, 12-27-30.
2. Allan, catalogue coins of Ancient India in the British Museum p. LXXXVII.
3. *Ibid*, p. LXXXVII.
4. Catalogue of coins, of Ancien India in the British Euseum, p. CXXXIX.

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occassional. When the North-West of India went completely under the control of the Indo-Greeks, the foreign source of copper by way of Uttarapatha to support the currency of North Indian local or tribal State was completely stopped. Therefore we do not find the influence of Taxila symbol or other marks of foreign coinage on the native dynasties like Mathura, Pancala, Kausambi, Varanasi (Rajghat), Pataliputra (Kumarhara) etc. all being important trade emporiums of the part. But all these regions on their ocins show the influence and contact of Ujjain, (through Ujjain symbol). This indicates that the trade channel of local Janapadas being blocked in the North-west region was conveniently opened in the western region by way of Ujjain. Ujjain was key point trade route between North Indian emporium and the Western Indian ports such as Bharukachchha and Surparaka. Most probably besides on the native supply of copper, local currencies also depended for their metal on the western import of copper which was coming to India through Bharukachchha. The Periplus mentions that copper in large quantity was imported in to the port of Barygaza [1]

1. Periplus, 44

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The Local Coins of Northern India : Their Bearing on History*

L. K. Tripathi

The history of Northern India from the second century B. C. to the third century A. D. is still far from clear. Besides the Purāṇas, which refer to the Śuṅgas and the Kāṇvas, and a few inscriptions, the coins form the main source of our knowledge for the chequered but obscure history of this period.

For the proper utilization of the material for the reconstruction of the history of this period, it is essential to have in mind the political map of the region in the Mauryan period and five after centuries. The Mauryas up to Aśoka were undisputed sovereigns of the whole of the Northern India and there is no proof that under the immediate successors of Aśoka there was any marked diminution. Pushyamitra overthrew the Mauryas and either before or after his usurpation there was a Greek invasion mentioned in the literary sources. Finally, the Śuṅgas appear to have consolidated most of the Mauryan territories in the Northern India[1] and after their rule of about a century the Kāṇvas apper as the leading power.[2] Later, inscriptional, numismatic, and artistic evidences tend to show the extension of Kushāṇa influence almost up to Bihar and Orissa in the east. The history of the region, from the downfall of the Kāṇvas to the rise of the Kushāṇas, is not very clear. After Kanishka the Kushāṇa territorial boundaries gradually shrank, and finally we find the Guptas emerging in the Madhyadeśa, and expanding their power and attaining imperial status. History of Northern India after the reign of Kanishka till the rise of the Guptas is again obscure. The local coins, roughly dating from the middle of the second century B. C. to the end of the third century A. D., throw some light on the post-Mauryan history of Northern India.

* I am thankful to Dr. Nisar Ahmad and Sri Deena Bandhu Pandey for their help in preparing this paper.

1. H. C. Raychaudhury, *Political History of India* 6, p. 371.
2. F. E. Pargiter, *The Purāṇa Text of the Dynasties of the Kali Age*, pp. 33-35.

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There are some important questions concerning this period of political history : Did the Śuṅgas totally disappear or continue to rule as feudatories after the Kāṇvas ? The same question is about the Kāṇvas too. Did the Greek invasion put an end to all the ruling dynasties in Northern India ? Does the Kushāṇa extension mean complete annihilation of the local powers ? The so called local coins come from Kauśāmbī, Kanauj, Mathurā, Ahichchhatrā, Ayodhyā and Vārāṇasī. More than forty names of the rulers from Kauśāmbī,[1] twenty-nine from Ahichchhatrā,[2] twenty from Mathurā,[3] fifteen from Ayodhyā,[4] and three from Kanauj[5] are known. On the basis of their name-endings, the rulers known from these coins have been arranged in different groups. Two major groups from Kauśāmbī are of the rulers whose names end in Mitra and Magha. Besides, there are some other rulers from Kauśāmbī whose names end in Ghosha, Deva, Gupta, Varma, Bhadra, and Pāla while the remaining are without such name-endings. Rulers from Ahichchhatrā may be classified under six heads on the basis of their names ending in Pāla, Gupta, Sena, Mitra, and Nandī and without such endings. The rulers from Mathurā may be divided into three groups. The first group comprises rulers having Mitra ending and the second those having Datta ending names. The Śaka Kshatrapas form the distinct third group. The rulers from Ayodhyā may also be divided into three classes again on the basis of their names ending respectively in Mitra, Deva, and Datta. Two of the three rulers of Kanauj have their names ending in Mitra and third in Deva. It cannot be said if these different name-endings are indicative of different dynasties, as precise chronology of these rulers is yet to be fixed. In view of the large number of these rulers, whose reigns must have

1. K. D. Bajpai, *JNSI*, XXVI, pp. 1-6; XXII, pp. 131-82; XXVII, pp. 11-21; XXVIII, pp. 44-47; *The Indian Numismatic Chronicle*, III, Part I, 11-21 Bela Lahiri, *The Coin Types of Kings with Mitra-Ending Names*, pp. 4-8.
2. V. S. Agrawala, *JNSI*, III, pp, 79-82. K. D. Bajpai, *JNSI*, XXIV, 9-19; XXVIII, 48-46. Bela Lahiri, *op. cit*, pp. 10-14. JASB, XDIX, p. 21.
3. Bela Lahiri, *op. cit.*, pp. 8-10. K. N. Puri, *Excavations at Rairh*, p. 68. K. D. Bajpai, *JNSI*, XXVIII, p. 42. Allan, *BMC, AI*, intr. cx-cxii, pp. 174-90. Smith *IMC*, p, 193.
4. Allan, *BMC, AI*, intr. lxxxix, pp. 130-38. V. A. Smith, *IMC*, pp. 150-51. A. S. Altekar, *JNSI*, VIII, p. 14. K. D. Bajpai, *JNSI*, XXV, pp. 108-109. Bela Lahiri, *op. cit.*, pp. 2-8.
5. Allan, *op. cit.*, intr. XCIII, p. 147. Bela Lahiri, *op. cit.*, p 3.

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covered quite a long period, the rule of more than one line in each region appears more than likely. But, unless a precise chronology is worked out, it is not possible to test the worth of such an assumption.

It is interesting to note that Mitra ending names were quite popular and rulers bearing such names are known to have ruled at all the important centres.[1] Their coins are also noted from Rairh in Rajasthan.[2] These Mitra rulers have been a problem for the numismatists. Some associate them with the Śuṅgas,[3] while others are opposed to such a relationship.[4] But it is not unlikely that they were the scions of the Great Śuṅgas including the Kāṇvas. There are grounds for such an assumption. Like the names of the Śuṅgas the names of these rulers end in Mitra. These rulers are found to have ruled the territories which once formed part of the Śuṅga dominion.[5] The names and symbols on their coins show that the Mitra rulers, like the great Śuṅgas, were followers of the Brahmanical faith. On the basis of their coins, some of these rulers are supposed to have performed the Aśvamedha sacrifice revived by Pushyamitra. Inscriptions from Ayodhyā and Bhārhut referring to the Śuṅgas show their continuance.[6] It appears that after some time the fabric of the Śuṅga empire cracked and the royal princes governing different provinces assumed independence. If the relationship of the Mitra rulers with the

1. Rulers bearing mitra-ending names are known from Kauśāmbī, Ayodhyā, Ahichchhatrā, Mathurā, Kanauj and probably also Varanasi.
2. K. N. Puri, *op. cit.*
3. H. C. Raychaudhury, op. cit., pp. 391-92. Rivett-carnac, *JASB*, 1880, pp. 31 ff.; 87 ff., *Ind. Ant.*, 1880, p. 311. K. P. Jayaswal, *JBORS*, 1917, p. 479. Bela Lahiri, *JNSI*, xx, p.128 ff.
4. A. Cunningham, *Coins of Ancient India*, pp. 79-80. Allan, *op. cit.*, intr. cxx. K. A. N. Sastri, *A comprehensive History of India, II, The Mauryas and Satavahanas (MS)*, p. 135 Cunningham, however, does not entirely rule out the possibility of the Mitra kings being connected with the Śuṅgas when he says 'As all other Puranic lists have been found to be erroneous, it is possible that these coins from Panchāla may belong to the Sunga kings.' *CAI*, p. 80.
5. H. C. Raychaudhury, *op. cit.*, p. 371.
6. *Nāgarī Prachāriṇi Patrikā*, Vaiśākha Sam 1981, *JBORS*, X, p. 203; XIII, p. 247. *IHQ*, 1929, pp., 602 ff. *Ep. Ind.*, XX, pp. 54 ff. *Sel. Ins.*, 1940, pp. 89, 96.

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Śuṅgas is accepted, the Mitra coins help roughly to define the Śuṅga dominion. Pāṭalīputra does not appear to have continued the capital city under the Śuṅgas. Mitra coins, from Pāṭalīputra are attributed to other centres.

There are certain kings whose coins are not confined to one centre only, though most of the rulers are represented in one centre only and are absent from the others. This fact has the following possibilities : The coins of these rulers travelled from their home centre to other places, though it would be difficult to explain why the coins of only these rulers and not of the others were so mobile. Secondly, this may indicate aggression and conquests by these kings. But it would be difficult to distinguish the original kingdom of one ruler from the annexnd one. Perhaps the statistical data regarding his coins may be of some help in this regard and the centre yielding the greatest number of his coins may be regarded as his capital or home-territory. Another question may be about the post-conquest history of the conquered regions, i. e. about the fate of the vanquished lines or relationship of the subsequent rulers with the victor or the vanquished. The third possibility is that these rulers are from the earliest Śuṅgas who for sometime ruled almost the whole of Madhyadeśa as one kingdom which was divided only later on. But at present we are not in a position to fix their correct positions as the chronology of the Mitra rulers is still in a melting pot.

The number of the rulers known from different centres varies. The lines with lesser number of rulers were obviously of comparatively short duration. Probably, their kingdoms were conquered and annexed.

The local coinage with the names of the issuers shows existence of monarchies in the area as was the case earlier. These rulers issuing coins are regarded to be of independent status. The Śaka Kshatrapas of Mathurā are also known to have issued coins.

The use of copper for coinage shows poor state of economy which is understandable if we take into account the size of these kingdoms and their strained political conditions. Possibly, they had no partnership in the maritime and foreign overland trade, due to their location in the heart of Northern India having no

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control over the coastal areas and being intervened by the foreign rule over the north-western India, which may also explain their non-use of more precious metals.

Kausambi

Mitras

Of the over fourty rulers of Kauśāmbī twenty-five bear Mitra-ending names. Some of these are known from their inscriptions also. Their chronology is uncertain. If we give, on average, 10 years to each king[1] the total period of their rule would be 250 years. And if the Maghas started their rule about 100 A. D.[2] the rule of these Mitra rulers must have started not later than 150 B. C. Thus, the early rulers of the line become almost contemporaneous with the great Śuṅgas which increases the possibility of their usually denied blood relationship. If we take these Mitra rulers to be different and later, it would be strange and inexplicable why the Śuṅgas did not mint coins, though their predecessors and successors issued them. It would be much more anomalous if the Mitras are taken to be their contemporaries or predecessors.

Maghas

About ten or eleven Magha rulers are known.[3] The rulers of Kauśāmbī are equated with the Magha rulers mentioned in the

1. Usually twenty or twenty-five years are given for one generation which is reasonable But this formula should be applied in case of dynasties where successsion from father to son is peaceful. Purānic data show that, the Śuṅga and Kāṇva king rules on average, only for eleven years. According to the Purāṇas the ten Śuṅgas and the four Kāṇvas ruled respectively for 112 and 45 years. The history of this period appears to be full of revolts, palace intrigues, and family feuds, as borne out by references in the Purāṇas and the *Harshacharita*. cf. Pargiter, *op. cit.*, pp. 33, 35.

2. This date in round number is conjectural based on two assumptions. First, the year 51 of the Bandhogarh inscription of Bhimasena may not be his first reignal year. Second, Bhīmasena may not be the first king of his line as he is know nown to have issued coins which shows that the dynasty assumed definite royal status in Bhīmasena's time and therefore must have started its career earlier.

3. K. D. Bajpai, The Maghas of Kauśāmbī & South Kosala and the Allied Problems, *The Indian Numismatic Chronicle (INC)*, vol. III, pt. I. pp. 11-21.

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Purāṇas.[1] where their number is given as nine and they are associated with Kosala region.[2]

Most of these rulers are also known from their seals and incriptions with dates.[3] On the basis of these dates, generally referred to Śaka era,[4] these rulers, have been arranged in chronological order.[5] But these dates also present problems, e. g., Poṭhaśrī and Bhadramagha have almost the same dates 86, 87, 88. It has been suggested that the latter was either the Yuvarāja under Poṭhaśrī[6] or the former rebelled against the latter and ruled independently.[7] There is also difference of opinion regarding the identification of Bha dramagha and Bhadrabala, father of Vaiśravaṇa.[8] But it is more likely that the two are identical. Bhadramagha was also known as Bhadradeva, Bhaḍadeva and Bhaṭṭadeva.[9] 107 date of Vaiśravṇa favours this identification. If so, Śivamagha has to be removed from in between Bhadramagha and Vaiśravaṇa, where he is placed even by those who favour this identification [10] Now the coins of Bhīmasena are known and so,

1. A. S. Altekar, *A New History of the Indian People (NHIP)*, vi, p. 41, fn. 1. D. C. Sircar, *The History and Culture of the Indian People (HCIP)*, II, p 175.
2. F. E. Pargiter, *op. cit.*, p. 51. *Kosalāyāṁ tu rājāno bhavishyanti mahābalāḥ Meghā iti samākhyālā buddhimanto navaiva tu.*
3. Cf. K. D. Bajpai, *INC*, III, pt. I,
4. Except N. G. Majumdar, Krishna Deve, K. P. Jayaswala and Daya Ram Sahni all other scholars take it to be Śaka era. The first two scholars take it to be the Chedi era starting in 248 A. D., while the last two respectively believe it to be the Gupta and Vakataka era. cf. Altekar, *NHIP*, VI, p. 41, fn 2; J. N. Banerji and Jagannath, *MS*, p. 260, fn. 3. N. P. Chakravarti, *Ep. Ind.*, xxxi, pp. 167 ff.
5. A. S. Altekar, *NHIP*, VI, pp. 41-46. D. C. Sircar, *op. cit.*, pp. 174-77. J. N. Banerji and Jagannath, *MS*, pp. 259-62. K. D. Bajpai, *INC*, III, pt I, pp. 11-21.
6. A. S. Altekar, *op. cit.*, p. 43. J. N. Banerji and Jagannath, *MS*, p. 261.
7. D. C. Sircar, *op., dit,*, p, 176.
8. A. S. Altekar, though inclined to accept the identity of the two is wavering. cf. *NHIP*, VI, pp. 44-45 and p. 45, fn. 1. Sircar and Banerji and Jagannath are opposed to it. K. D. Bajpai accepts it.
9. D. C. Sircar finds the identification of Bhadramagha with Bhadradeva or Bhadadeva, accepted by Altekar, Banerji and Jagannath, and Bajpai to be unconvincing. *HCIP*, II, p. 176.
10. cf. Bajpai, *INC*, III, pt. 1, p. 14. Bajpai appears to follow Altekar who is guided by the similarity between his sealings and those of Bhīmasena which he feels prevents one to remove him from his place after Bhadra-

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it does not appear unlikely that he was preceded by one or more members of his family. The known dates of the Magha rulers range from 51 to 139, i.e. 129 to 217 A. D. Four or five rulers bearing Magha-ending names are placed after 217 A. D. And if we take average (18 years) of their reign periods (88 years) on the basis of known dates and calculate their total reign-period it will come to extend up to (217+72/90=) 289/307 A. D. And if we take round number 15 to be the average, this will extend to 277 or 292. So we may take 300 A. D. as the date about which the Maghas ended their rule. The gap between this date and that of Rudra will be filled in by such names as Nava, whose coins are similar to those of the Maghas.[1]

Though not accepted by all,[2] it seems likely that this area came under the Kushāṇa away under Kanishka and after his death, when the Kushāṇa control over this region was lost, the Maghas, in absence of the earlier local dynasty, which, probably, had become extinct, occupied it and gradually increased their power. It is not unlikely that in the beginning they might have nominally acknowledged the suzerainty of the Kushāṇas, though, except their use of the Śaka era, there is no evidence for such a hypothesis. Probably, their coinage shows that they were independent rulers, but much stress should not be laid on this point. It is equally likely that this dynasty came to be established under the Kushāṇas and ruled as their feudatory in the beginning and later on became independent and issued coins when the Kushāṇa power had weakened.

The Magha ending of their names is interesting. It has been suggested that probably the dynasty was founded by a lieutenant of the Kushāṇas named Magha.[3] Magha is noted to be the name of a *dvīpa* and of the country of the *Mlechchhas*.[4] It has also phonetic resemblance with the words *Maga* and *Moga*. The

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magha. Chakravarty (*op. cit.*, p. 171) on the same grounds places Śivmagha earlier than Bhadramagha.

1. K. D. Bajpai, *INC*, III, pt. I, p. 17.
2. *Ibid*, pp., 18-19.
3. D. C. Sircar, *op. cit.*, p. 176.
4. *Śabdakalpadruma*, III, Varanasi, 1961, p. 563. M. Monier-Williams, *A Sanskrit English Dictionary*, Oxford, 1899, p. 712.

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Maghas are usually taken to be the indigenous people,[1] but the word Magha sounds to be foreign.

The kingdom of the Maghas was quite extensive stretching from Fatehpur to Bandhogarh. But their home centre and the direction of the extension of their power, which may be of some value, is not precisely known.[2]

Rudra

The coinage of Śrī Rudra, whose identification with Rudradeva of the Allahabad pillar inscription is favoured on the basis of geographical and palaeographical considerations,[3] has correspondence with that of the later Kushāṇas, and on that account his affiliations with them are suggested. In view of the Sassanian progress from the west which hastened the breaking and downfall of the Kushāṇa power, this suggestion is not unlikely. Probably, this may also explain why Samudragupta promptly uprooted him.

Panchala

The different endings of the names of the Pāñchāla rulers show that the history of the region might have been quite eventful,

1. This belief is implied in such statements as 'The Maghas may have served as strong bulwark against the growing power of the Kusāṇas towards the east and may have eventually succeeded in alliance with other Indian powers, in uprooting the Kusāṇas from the Madhyadeśa.' *INC*, III, pt. I, p. 21.
2. Altekar and Banerji and Jagannath believe that their original seat of power was Baghelkhand and extension of their power was northwards. They obviously believed that the non-occurnence of the coins or epigraphs of Bhīmasene at Kausambi and occurrence of one of his records at Bandhogarh in Shahdol Distt., as then the case was, indicate that the Kausambi region was outside their dominion in Bhīmasena's time and was annexed only later on. But now the coins of Bhimasena are recorded from Kausambi. Bajpai traces the extension of their power in opposite direction. Chakravarty (*op cit.*, p. 176) thinks that the so called Magha rulers belong to two different lines, one of the Maghas and the other of Bhīmasena, the former comprising Śivamagha, Bhadramagha etc. ruling at Kauśāmbī and the latter consisting of Bhadrabāla, aiśravaṇa, Bhīmasena, Poṭhasiri, Bhaṭṭadeva and, probably, Chitrasena occupying Bandhogarh region. The suggestion is worth consideration but some of his postulations such as of two Vaiśravaṇas one in either line remain to be substantiated. The problem, in view of new material, requires to be studied afresh. It may, however, be noted that the coins of Bhīmasena from Kauśāmbī were not known to Chakravarti.
3. M M, Nagar. *JNSI*,, XI, pp. 13-15. K. D.Bajpai. *JNSI*, XXV, p. 6.

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but we know very little about it. If we give on average fifteen, years to each king and take them to have started their rule in the middle of the second century B. C., the total length of the reign periods of the twenty-nine kings—about 450 years—would stretch upto the close of the third century A. D. One king from Pāñchāla is Achyuta who is identified with the Áryāvarta ruler of that name ousted by Samudragupta, as recorded in the Allahabad pillar inscription. The coins of Achyuta, like those of the Western Kshatrapas, show head of the king on the obverse.[1] It is interesting to note that the coins of Śrī Rudra, another ruler uprooted by the Gupta conqueror from Kauśāmbī show similar affiliation with the coinage of the Kushāṇas. It is believed that this region came under the Kushāṇas in Ḳanishka's time. Some of the Pāñchāla rulers might have been foreigners, but there is nothing to ascertain it.

Mathura

The rulers of Mathurā are taken to belong to two different dynasties.[2] The first has Mitra-ending names and the other Datta-ending. The two dynasties are taken to have ruled from about the middle of the second to the middle of the first century B. C.,[3] when the region came to be occupied by the Śaka Satrapas. Mathurā remained under foreign rule for about 250 years, until the overthrow of the Kushāṇas. Some of the rulers of the second dynasty are regarded to be the Nāgas,[4] for which no evidence exists. After the Kushāṇas the Nāgas appear to have occupied Mathurā, and their last ruler Gaṇapatināga was overthrown by Samudragupta. Vīrasena appears to be another powerful Nāga ruler whose coins have been found all over Uttar Pradesh.[5]

Ayodhya

It is suggested that some coins of Adodhyā series like those of Naradatta and Śivadatta are really the issues from Mathurā.[6]

1. Allan, *op., cit* , intr, lxxix, pp. 117-19. D. C. Sircar, *op. cit*, pP. 172-78.
2. Prof. Jagannath, *MS*, p. 108.
3. *Ibid*.
4. K. P. Jayaswala, *History of India*, pp. 12-13. Cf. Prof. Jagannath, *MS*, p. 108.
5. D. C. Sircar, *op. cit.*, p. 171.
6. Prof. Jagannath, *MS*, p. 105.

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The remaining coins are divided into two groups, with an intervening hiatus of about a century, when the region came under the influence of the foreigners.[1] The rulers of the first group reigned after the first quarter of the first century B. C. and those of the second group from about the end of the second to the end of the third century A. D.[2] when they were, probably, overthrown and their territories annexed to the early Gupta kingdom. These later rulers bear Mitra-ending names. It has been suggested that 'there is no possibility of link between the Śuṅgas and these Mitra kings and that they may in some manner be connected with the Paṭumitras and Pushyamitras of Mekala and Kosala mentioned in the Purāṇic account.'[3] But either suggestion is unwarranted.

Kanauj

The discovery of the coins of only three rulers from Kanauj shows that either the south Pañchāla kingdom was incorporated, later on, in one of the neighbouring kingdoms of Mathurā and Pañchāla or these rulers actually belong to either of these two kingdoms.

The coins from Almorā[4]. Rairh[5] and Varanasi are very few.

1. *Ibid.*
2. Ibid.
3. Ibid.
4. Allan, *op. cit.*, intr. lxxx, p. 120.
5. K. N, Pnri, *op. cit.*

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Bearing of Local Coins on the History of North Western India

N. Ahmad

In this part of our sub-continent, two ancient great cities Takshaśilā or Takkasilā, modern Taxila and Pushklāvatī, present Charsada, emerged, primarily as carvan-town and then as capitals. The testimony of Rāmāyaṇa that both the cities were founded at the same time "accords with the archaeological evidence." But "there is in fact no hint that Begram or Charsada or Taxila existed appreciably before the extention of Persian power across the Hindu Kush in early Achaemenid times."[1] The earliest antiquities of Taxila and Charsada take them to sixth century B.C.

The diggings of the city Pushklāvatī at Bālā Hisār and Shaikhan Dheri[2] do not provide any specimen of Local Coin The only excavated site which yields the Local Coins is Taxila.[3] From here a large collection of this currency is made either from the surface or by unearthing the habitational deposits. Majority of them from Sirkap, the city founded by the Greeks. The later Kushaṇa city Sirsukha revealed only one coin. At Bhir, the Taxila I, these pieces occur in every stratum.

Who were the issuers of this money and what were the times of its striking, though they are disputable, endure to the historical events of this region. Allan thinks that they were minted under the Mauryan governors.[4] Marshall holds that 'to the period of independence from c. 225-183 B.C., probably a great many of the local uninscribed copper coins belong, though the simpler types of this money[5] appear to date form as far back as the Maurya period,

1. *Charsada*, p. xii.
2. AP. II,17 ff,
3. *Taxila*. II, pp. 756 ff.
4. *BMC, AI*, p. cxxxix.
5. Dani rightly questions: "what does Marshall means by the simpler types ?' *JNSI*, xxii, p. 3.

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and others may not have been issued until after the advent of Greeks.'[1] Marshall is silent on the attributions of these pieces which in his view, were issued in the times of Maurya, Greeks and Śakas.

Stratigraphically these Taxilan Coins date back to the end of 5th cent. B. C. and continued till the rule of the Śakas, as is evident from the occurrence of their numbers and the new types in the diggings of Sirkap. Therefore, the earliest issues have to be attributed to the predecessors and successors of Ámbhi. the ruler of Taxila, the contemporary of Alexander.[2] This region lost its independence about 310 B.C. when Chandragupta Maurya unifying the whole India, annexed it in Magadha empire.[3] However, this region was quick to revolt oftenly.[4] However, in the times of Bindusāra and Aśoka, these revolts were quelled but after Sāliśuka it again achieved its past independent existence under either the old ruling house or under some local officer. And in this period again they issued this money.

One coin of Demetrius II is found from Bhir and most probably from the surface. The coins of Agathocles, who was the first Greek king to hold the eastern districts of Gandhara,[5] occur not at Bhir but Sirkap which indicate that this city was certainly inhabited before the Greek-advent, i.e. in the period of autonomy. However, Taxila became a part of Indo-Greek dominion from this time. But if the introduction of the new types in this coinage[6] in the later strata of Sirkap and their large proportions at this place are accounted, it may be inferred that during the weak-holds of Greeks and Śakas, these born-revolted people would have again made themselves independent.

From Taxila some inscribed coins with the legends *negama*, *panchanekame* and *hirañasame* are found. Marshall assigns them to the period of independence from c. 225-183 B.C. From the excavations only one coin with the legend *hirañasame* and three

1. *Taxila*, I, p. 26.
2. *Age of Imperial Unity*, pp. 44 ff.
3. *Chronology of Punch Marked Coins*, pp. 86 ff.
4. *MS*, p 91,
5. *The Indo-Greeks*, p. 53.
6. *Taxila*, II pp. 756-57.

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coins with *pañchanckame* are found.[1] But all of them except one which comes from the strata II and III, are found from the first or surface stratum.[2] Buhler opines that they 'were mercantile money token issued by traders.'[3] On the reverse of these coins are certain names which in Marshall's opinion were the mofussil-towns[4] and according to Allan they are the names of the quarters or wards.[5] However, at present on the basis of their stratigraphic positions and their very insignificant numbers, in comparison of other Local Taxilan Coins, it may be suggested that they were issued, probably by some adjoining principalities.

1. *BMC, A* I, pp. 214 ff.
2. *Taxila*, II p. 770-71.
3. *Indian Studies*, III, p. 49
4. *Taxila*, I, p. 27.
5. *BMC, A* I, p. cxxviii.

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Chemical Composition of Taxila Coins and Probable Source of their Metal

H. C. Bhardwaj

The analyses of coins is undertaken to know the precise nature of the metal, whether it is a pure metal (unalloyed) or it is alloyed with other metals to provide strength to it, or to debase it with a cheaper metal. The analyses of coins, might also help to locate the source of the raw materials (ores of copper used for making the metal). It also throws light on the technical advancement achieved in the metallurgical processes of the contemporary period. This sort of information is often found very useful for supplementing the numismatic evidence. It can be safely suggested that chemical composition in conjuction with numismatic evidence has a potentiality of providing new conclusions or suggestions, which might not be possible by numismatic evidence alone.

The coin catalogues and numismatic works do not differentiate between copper and bronze coins, and that either name is given according to the whim of the author.

The chemical composition of the coins from different sites may throw light on the economical conditions, trade connections, disruption of trade due to military activities. For an instance, copper coins might be in general earlier than the bronze coins, but there has been often reversion to copper coins. This might suggest scarcity of tin in the copper coinage area. Reverting from bronze to copper may also suggest breaking of trade link with the part supplying tin.

In view of hundreds of mint in ancient India, from where local coins were issued, it would be useful if coins of known attribution were analysed in a detailed manner.

Analysis of about a hundred selected coins, would surely provide us with a picture of the variety in the content of the local coins and would yield a great deal of additional information.

The metal content has often impurities, e. g. arsenic, nickel, cobalt etc., presence or absence of which might tell us of the probable sources of the ores from which the metal has been won.

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With this view in hand, work of analyses of coins was undertaken. I am thankful to the Head of the Department, A. I. H. C. & Arch., B. H. U. to provide me with two coins from Taxila collection of the department.

The copper coinage of Taxila began "late in the 3rd cent. B. C. ... ... and ending with the Greek conquest before the middle of the 2nd century[1]. The result of analysis are tabulated below :

Coins No. 1 (slightly oxidised)		Coin No. 2
Copper	96 24%	98.40%
Insoluble matter	1.24%	nil
Iron	0.56%	0.80%
Sulphur	Trace	Trace
Lead	Trace	Trace
Nickel	Absent	Absent
Oxygen by difference	1.00%	0.80%
Total	100.00%	100.00%

From the result of analyses it is clear that these coins are made from un-alloyed copper. The copper has hardly much impurity except that of iron and it means that this comparatively pure metal has been prepared by working at recrystalization temperature.

The absence of nickel even in traces might be significant. On account of its absence, I am inclined to believe that the ores for Taxila coin might have even come from source other than those of Rajasthan and Bihar, as both of these are invariably associated with nickel. Copper has been worked from these deposits since remote antiquity.[2]

A comparison of the chemical contents of these uninscribed coins from Taxila to those of Rajghat and Kausambi reveals that

1. *BMC, AI*, p. CXXXIX.
2. *Bharti*, 1966, pp. 64-66.

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while the former are made of unalloyed copper and the latter are of bronze[1].

Probable sources of Taxila coins :

In the Indian sub-continent and its neighbourhood, there had been good deposits of copper ores in the various regions as evidenced today at Khetri, Babai and Singhana in Rajasthan, at Mosaboni and Rakhe in Hazaribagh district of Bihar. Smaller deposits are also reported from a number of other places.[2]

Copper ores are also reported from west Pakistan in Shahpur district. It is also reported from the uplands on Baluchistan. Afghanistan has its copper deposit at Shah Maksud range. In Persia copper is reported at Kalelizeri (Kerman) and Anarek.

In the ancient world, the important copper ores are met in mountaineous regions around the fertile crescent from Sinai to Persian Gulf, in the mountains of Penninsula of Sinaii, north-west parts of Asia Minor, Anatolia, the Caucasus, Aremenia, around Lake Van in the Zagros mountains and in the Elburz around Diyarbaber.

On the basis of absence of nickel, in the Taxila coins, the main sources of Rajasthan, Bihar might become out of question, hence there could be a chance of these coins being made of imported copper. The presence of iron and sulphur in these coins points out the use of sulphide ore for obtaining the metal.[3]

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1. *Papers on the chronology of Punch-Marked Coins,*
2. Brown, C. J. and Day, A. K , *India's Mineral Wealth*, 1955, pp. 146-155.
3. Tylecote R. F., *Metallurgy in Archaeology*, 1962, p. 22.

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The Bearing of Excavation On the Chronology of Local Coins of Taxila

Nisar Ahmad

Six hundred eighty two cast and diestruck copper coins are discovered between 1912 and 1934 from the excavations at Taxila. They are found from three mounds, Bhir, Sirkap and Sirsukh. The first site yields only one seventy nine coins. The coins in major numbers, i.e. five hundred two, are obtained from the second site, Sirkap. Only one coin comes from Sirsukh.

It is important to note that of the 179 coins from the Bhir Mound 134 come from the second or Maurya stratum, 33 from the first or surface stratum, 10 only from the third, and two from the fourth stratum[1]. For the date of the coins, Marshall says that these local coins of Taxila were struck from third century on until the coming of the Greeks, and perhaps for some time afterwards'[2]. Allan observes that these coins were a short-lived, beginning late in the third century B. C. and ending with the Greek conquest before the middle of the second century[3]. Marshall further observes that "Allan may be right but the latter date is not free from difficulties" as a good number of coins coming from the Maurya and autonomous periods of Bhir Mound and "the very large number of these coins found in Sirkap" suggest that, these coins were not only minted in Maurya period but continued to be struck during the brief interval of autonomy as well as "for some time after the Greek and possibly after the Saka conquest."[4] The only first occurrence of a good number of these coins in stratum

1. Marshall, J., *Taxila*, I, pp. 111-124, 221, 756-753.
2. Ibid., p. 756.
3. Allan, J., *Catalogue of the Coins of Ancient India*, p. CXXXIX.
4. *Taxila*, I, p. 110, II, p. 756.

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II of Bhir Mound may not be affixed with the beginning of this century.

About these coins found in earlier strata Marshall writes that "of the ten specimens from the third stratum, seven, which were found less than 2 ft. below the Maurya foundations, were doubtless buried there during the Maurya period, and the other three specimens, as well as the two from the fourth stratum may reasonably be presumed to have been strays."[1] The coins of stratum II are cast where as among the specimens of stratum III, alteast one coin is die-struck.[2] The coins of both the techniques exist in all the strata, except stratum IV. If the coins of stratum IV are the strays of the earlier strata, the die struck coins should have also occurred there. The coins of stratum III may not also be regarded as burial, because they are found scattered and not in a hoard. Thus it appears that this currency started from stratum IV. Marshall assigns this stratum from 4 hundred to 3 hundred B. C. but it has been[3] said elsewhere that this stratum is purely Pre-Hellanistic and therefore the last extension of the period may be placed before 400 B. C. Hence the earliest date of this currency may be pushed back to atleast to the end of the 5th century B. C.

The fixation of the late limit of the minting of this currency is a highly debatable issue. Marshall, on the presence of overwhelming number of these coins and fourteen new types in Sirkap, thinks that the striking of this money continued till or after the Saka conquest[4]. Jai Prakash holds that the view of Marshall is wrong. According to him 'these coins continued to be struck till the fall of Taxilan autonomy to Indo-Greeks'. Against Marshall's contention, he writes : "had some of these coins been struck after the Indo-Greeks and the Sakas they must have incorporated at least some of the characteristics of the preceding foreign coinages", "The new varieties of local Taxilan coins, known from Sirkap

1. Ibid., p. 756
2. *Ibid.*, pp. 60-61.
3. Ahmad, N , "The Bearing of Taxila Hoards on the Chronology of the Punch Marked coins, *Chronology of the Punch Marked Coins*, pp. 86 ff.
4. *Taxila*, I, p. 110 ; II, p. 756

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and unrepresented in Bhir Mound may be taken to show that their issue more or the less synchronised with the fall of that quarter of the city, the money must have been therefore, hoarded and spent later at Sirkap".[1] But it is not necessary that the coins issued in the times of Indo-Greeks and Sakas must have adopted their features. Numismatic evidence fails to represent to the continuous borrowing traditions. Again some of the new types only occur in the upper strata, Saka-Parthian, of Sirkap hence the suggestion of the above scholar, that the issue of the new types more or the less synchronised with the fall of Bhir and therefore they were hoarded and spent at Sirkap, does not carry much water.[2] Therefore, these coins seem to have been minted in the times of Indo-Greeks and Sakas.

It has been also pointed out that stratum IV of Bhir Mound is non-Hellanistic whereas stratum III is Hellanistic.[3] If the coins of stratum IV are the properties of this stratum, it may be inferred that the technique of casting was purely Indian. The die-struck technique was introduced in stratum III with the Hellanistic wares. But, as the people of this place could not master themselves for this new technique, they employed both the techniques till the end of the minting of this currency.

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1. *Supra.*
2. Marshall rightly observes that "it is an undeniable fact, of course, that Ancient Indian Coins often remained in circulation for several generations after they had ceased to be minted, but it is difficult to believe that such a very large proportion of these particular coins would have been current in the first century A. D., if their issue had been stopped two centuries earlier. On the whole, it seems more likely that these local coins continued to be struck for some time after the Greek, and possibly after the Saka conquest also. *Taxila*, p. 756.
3. Ahmad, op. cit., pp. 92-93.

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On the Attribution of Round Uninscribed Cast Coins

K. K Sinha

During the course of recent Archaeological excavations of sites in Ganga Valley a particular type of uninscribed Cast Coins commonly occurs. It is round shaped and has an elephant figure on the obverse and crescented-hill on the reverse. It is proposed to consider here its possible attribution In the whole lot of uninscribed coins, this is among the simplest of the varieties but at the same time, Allan has described it as one of the most extensive of the series, and its provenances as noted by him are confirmed by recent excavations. This particular type was popular mainly in Ganga Valley, but specimens have been reported from Central India and Taxila. At the latter site, the types had a limited circulation.

In order to determine the probable date of its issue, I shall examine the stratigraphical position of this type of coin from two sites. Ahichchhatra & Kausambi. At Ahichchhatra, working downwards from top, stratum VI marks the introduction of Panchala Coins. Stratum VII has yielded a square cast coin and Stratum VIII has yielded round cast coins including the type under discussion. The facts that emerge from Ahichchhatra excavation are, firstly the complete absence of Panchala Coins from Strata VIII & VII, secondly, a stage represented by square cast coins intervening between the uninscribed round cast and inscribed coins. However, this stage may not be universal and finally a cultural break, not implying any time gap is indicated between stratum VI and the deposits preceding this stratum. Considering all these factors, Stratum VIII cannot be later than 200 B. C. at the latest. Excavation date is 300—200 B. C. In fact, much of the material derived from this stratum can be easily assigned to a mid-3rd Cent B. C. context. The round cast coins...with crescented elephant symbols may be assigned to this date.

Regarding the position at Kausambi, I wish to draw attention to the evidence as set out in a summary of the results of the 1949-50 excavations published in the Annual Bibliography of Kern

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Institute. Here the uninscribed cast coins associated with a late phase of N. B. P. occurs in a level far below that of one yielding Brihaspatimitra II coins and also lower than the well known lankey bull type of coinage...and has been dated to a period between 300-250 B. C. That round cast coins with elephant and crescented hill symbols must have been the most common of the uninscribed cast is evident from the results of excavations at Kausambi in 1957-59. The stratigraphical position of the coin during this later excavation is not at variance with 1949-50 results. But of the two excavations, more reliance needs to be placed on the results from the earlier excavation as that was done in an habitation area where stratigraphy is apt to be mere reliable.

We may now pass on to the consideration of the symbols on obverse and reverse elaborating Durga Prasad's earlier suggestion that there is a uniformity on certain symbols, Allchin has drawn attention to the occurrence of some of these symbols on Ramapurwa bull, polished pillars of Kumrahar, Mahasthan stone slab, Sohagaura copper plate inscription and a very large number of the uninscribed cast coins from Taxila to Patna, all of those to 3rd Cent B. C. I need not go into the details of the article published by Allchin in *BSOAS* but find myself in general agreement with him on the question of their contextual implications of the occurrence of symbols. In particular, Allchin has pointed out that the crescented hill which occurs throughout may have significance of the marks of far reaching authority extending from Patna to Taxila and this can only be the Mauryan Dynasty. It would, therefore, *inter alia* mean that some of the uninscribed cast coins, particularly those bearing crescented hill symbol may be dated to the middle of 3rd Cent. B. C. or thereabout.

Dani has questioned this hypothesis on the ground that if the uninscribed cast coins are assigned as above, what coins were issued during the remaining period of Mauryan rule and during the sovereignty of the early Sunga rulers. Dani's dilemma is that according to his scheme of chronology of early Indian coinage inscribed coins first came to be introduced in India after 150 B.C. and as uninscribed Cast Coin must have immediately preceded the earliest introduction of inscribed coinage, he is unable to reconcile

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to the fact that some of the uninscribed cast coins could be dated to a mid-3rd century B. C. In a paper submitted to this seminar, I have tried to show that there is a distinct possibility that some of the earliest uninscribed coins would have come into existence in the end of 3rd century or the beginning of 2nd Cent. B. C. and accordingly there could be no harm in dating a few of the types of uninscribed cast to a period round about 250 B. C. Besides Dani's implied suggestion of a necessity to assign a coinage for remaining period of Mauryan rule and during the sovereignty of early Sunga rulers raises a fundamental issue. Must we, of necessity, pre-suppose that every period in political history needs to have a coin type as its distinct contribution ? It is not contested that often a political authority is sought to be impressed by the issue of an individual coin type, but at the same time, we must also not forget that the primary aim of the coin must have been to serve as medium of exchange. It is, therefore, quite probable that the earlier currency during a particular period may have continued to serve as medium of exchange. We need not, therefore, be unduly vexed over the question of assigning a coinage for the remaining period of the Mauryan rule. It is easier to postulate that the earlier coins must have continued to serve the purpose and thus perhaps, in the confused political situation that central authority of Magadha during the later Mauryan period may not have felt inclined to issue a coin, I submit it is rather hazardous to rush in to identify a coinage for every period in political history.

To revert back to crescented hill symbol. It has been remarked that there is nothing extra-ordinary about this symbol which could be a mason or smith's mark. Even a common place symbol in course of time may acquire importance. It is not so much the look of the symbol that is relevant to our discussion but it is the contextual significance that Allchin has rightly sought to emphasise.

The obverse device on round copper cast coins is the figure of an elephant. I submit that the occurrence of elephant was no less important. Here, I would like to draw attention to the wide popularity in *circa* 3rd Cent. B. C. of the elephant figures in terracotta as revealed by excavations at Taxila, Ahichchhatra, Hastinapur, Rupar, Sravasti, Rajghat etc. At most of these sites,

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the elephant figures far out number the others during this particular period and what is still more significant is that most of the figures recovered from different sites, were treated with elaborate decoration. Perhaps no other animal and in no other period of antiquity covered by the excavations mentioned above was bestowed such attention. I may emphasize two other aspects of the occurrence of elephant figures on excavation sites. The cultural horizon is common and assignable to 300-200 B. C. and secondly the decoration consisting mainly of an impressed design of *Chakra* recurs throughout.

I suspect, therefore, that the terracotta elephant figures recovered from excavations assignable to 300-200 B. C may have religious significance not unconnected with the prevalent Buddhism.

Outside the excavated sites, the popularity of elephant is attested by the following facts. Figure of an elephant is carved at the top of Dhauli rock edict of Asoka and also at Kalsi where गजतमे is inscribed below the figure of an elephant. Hulzsch agreeing with Kern, Senart and Buhler thinks that the Girnar rock eidct must have borne like the Kalsi and Dhauli edicts, the figure of an elephant representing the Buddha. Below the 13th edict at Girnar on the right, an inscription reads [Sa]rvasve to hasti sarvaloka Sukha haronama white elephant bringing happiness to the whole world. Here, indeed, we are confronted with not merely a royal emblem but a symbolic representation worthy of royal adoration.

I have tried to show above that the elephant figure occurring on obverse of the round cast coins has no less contextual significance than the reverse device of crescented hill.

In the end we are urged by the evidence to conclude as follows :—

(1) Of the early cast coins, the round uninscribed copper cast with obverse device of elephant and reverse showing crescented hill has the most extensive provenance occurring from Taxila to Patna.

(2) Archaeological evidence would indicate a date range of about 250 B. C.

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(3) A study of the context of the two symbols shows that both of them were quite popular during Mauryan times, often carrying the impression of a royal authority.

(4) The elephant figure had, in addition, acquired a religious significance during Asoka's time as indicated by Kalsi, Dhauli & Girnar edicts. The wide occurrence of elephant figures in terracota from the many excavated sites in north India has to be related to the same context.

(5) The extent of Asoka's empire is not at variance with the known provenance of the type of coin in question.

(6) Asoka was responsible for quite a few innovations; chief among which is the issue of rock edicts and in keeping with this tradition, was likely to have introduced a new series of coinage.

(7) After punch-marked, round copper cast coins mark the introduction of a new series in the history of Indian coinage.

If the above facts are not mere coincidence, shall we not be justified in attributing the round copper cast coins, particularly the one with elephant on obverse and hill with crescent on reverse to Asoka ?

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The Symbol of Hillocks*

R. G. Chandra

Many symbols of Indian art show their antiquity up to the Vedic times but they might have been in existence since long before the times of the Vedas. Their meanings have therefore to be searched in the thoughts of primitive societies. In this context let us examine the symbol of Hillocks.

The three arched hill symbols called variously as *Meru, Chaitya* etc.[1] with its several variations, for example with five arches,[2] six arches,[3] three arches of which one is placed above the two, with a crescent at its top,[4] three arches with a tree at the top,[5] three arches with a sun and four *Nandipādas* round it,[6] three arches with a dog at the top,[7] three arches with a peacock at its top,[8] three arches within an apisidal enclosure, with two fishes underneath and a *Nandipāda* at the top etc. (fig. I-f), is found on the punch-marked and cast copper coins of India. The symbol also appears on *Aśokan* cast coins along with the hollow cross, the elephant, the *Svastika*, the tree in railing and Vaijayantī (fig. II-e).[9] This symbol of three hillocks with a crescent at the top as seen on the *Aśokan* coins was also found by Spooner on one of the pillars of the hall of Chandra Gupta Maurya at Kumarhāra[10] (fig. II-b) and

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* Paper submitted after Seminar. —*Editor*

1. It has been called Meru by Bhagwanlalji Indraji and Chaitya by Agrawal; though it neither corresponds in form to the description of *Meru* in the *Purāṇas* nor to the *Caitya* as seen on early Indian architecture.
2. Durga Prasad, *Numismatic Supplement*, No. XLV (1934)—pl. 9, coin 4, symbol 4.
3. Ibid, pl. 9, coin 1, symbol 4.
4. Ibid, pl. 20, coins 120-131, symbol 3.
5. Ibid, pl. 11, coin 29, 30.
6. Ibid, pl. 11, coin 27, symbol 27.
7. Ibid, pl. 14, coins 53-63, symbol 3.
8. Ibid, pl. 21, coins 134, symbol 4.
9. *NS.*, 1937-38, No. XLVII, p. 63.
10. Ibid, p. 62, pl. 7 ,fig. 1.

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on the Sohagaura copper plate[1] (fig. II-a). Similarly the copper bolt connecting the Rampurva lions capital with the monolith (fig. II-C), the terracotta dishes excavated by Manoranjan Ghosh from Bulandībāga and the terracotta matrix from Kumarahāra all bear this symbol of three hills with a crescent in relief.[2] (figs. II-d,dd) The most interesting piece bearing this symbol however, comes from Kauśāmbī, on one side of which is the open cross and on the other the three hill symbol with a crescent. It is described as a passport *Mudrā* of Asoka by Durga Prasad (Fig. II-f).[3] Another coin from Taxilā, portraying on one side a lion licking a hill and on the other an elephant with a hill at the back has been described as Mauryan[4] (fig. II-g). Jayaswal has tried to identify this symbol as Rājāṅka of Chandra Gupta Maurya on the strength of a story of Chandra Gupta mentioned in connection with the invasion of India by Alexander the Great by MacCrindle which says that he was licked by a lion while asleep and that a wild elephant mounted him on her back when he awoke.[5] We have another coin of Daśaratha of the Mauryan family which also bears the *Meru* with crescent.[6] On the coins of Pushyamitra and Agnimitra it appears without the crescent, but the three hill symbol with crescent appears on the silver and copper coins of Western Satraps of the 2nd and the 3rd century A. D. We get this symbol with certain variations of the lead and potin coins of Andhras of the south also.[7] Then, we have this symbol with a crescent at the top on the uninscribed cast copper coin from Ahichchhatra bearing on the obverse an elephant among the finds of period II (Fig. III-a) (C. 300-200 B. C.).[8] A similar figure is seen on a coin from Rupara[9] belonging to C. 600-200 B. C., another one from Taxila (fig. III-b)[10] and third from Ujjain (fig. III-c).[11] A coin bear-

1. *JASB.*, 1394, p. 44; Spooner, Excavations at Pataliputra, *ASI*, *AR.*, 1912-13, p. 53-83, pl. XLIX, No. 10.
2. Durga Prasad, *NS*, No. XLVII, p. 62, figs. 1, 2 & 5, pl. 8.
3. Ibid, p. 66 N.
4. Ibid, pl. 61 N.
5. K. P. Jayaswal, *JBORS*, Vol. XX, p. 28.
6. Ibid, p. 65.
7. Ibid, p, 68 N.
8. Y. D. Sharma 'Explorations of Historical Site', *AI*, No. 9 fig. 9, 11-14.
9. Ibid, fig. 4-III-14.
10. Ibid, fig. 8-III-9.
11. *IAR*, 1956-57, fig., 11, period II.

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ing the hill symbol with a crescent at the top on one side (fig. II-d) and a *Nandipāda* on the other, has been found from the North West India[1] and another with *Meru* on the side and a tree in railing on the other appears at Hastināpura ascribable to 300 B.C.[2] The hill symbol consisting of six arches and a crescent at top along with a tree in railing occurs also on the Śatavahana coins from Chandravalli bearing on the obverse either the figure of the bull[3] or of *Triratna*[4] (fig. III-d). This symbol is also seen on coins from Magadha.[5]

Strangely enough a pendant of Bhārhut appears to have been designed somewhat like this hill symbol. Here it is shown along with other ornaments coming out of a lotus creeper.[6] The borders of the hills in this piece are decorated with dots and each of the central pieces has a lotus flower. At the base of this ornament can be seen small round dots representing the ancient valuable stones.

This symbol appears to have been exported from India along with Buddhism as it occurs in a slightly modified form like a trefoil on a Tibetan painted scroll. Around this symbol we have here gods in an attitude of worship,[7] (Fig. III-f) which suggests that this symbol represented *Triratana* of the Buddhist faith. In a somewhat similar form it also appears in one of the carvings of the southern court temple of Prambanam, Java (Fig. III-e,[8] on the central symbol of a lamp of Java[9] and as a top piece of a standard of Borobudur.[10] As a late architectural device we find it being used to denote *chaitya* windows[11] in Harihar temple (Fig. III-g). In all these cases it takes almost the form of a trefoil.

1. Durga Prasad, *NS*, No. XLVII p. 65 N pl. 9.
2. B. B. Lal, Excavations at Hastinapur, *AI*, No. 10-11, 1954-55, pl. LVIII-BI, p. 102.
3. R. E. Wheeler, Brahmagiri & Chandravalli, No. 4, 1947-48, pl. CXXVIII, 16, 17.
4. Ibid, pl. CXXVIII, 26, 27 etc.
5. Durga Prasad, op. cit., pl. 10-1-4 pl. 65 N.
6. Stella Kramrisch *The Art of India Through the Ages*, pl. 15.
7. F. D. K. Bosch, *The Golden Germ*, pl. 15 b.
8. Ibid, pl. 14 b.
9. Ibid, pl. 38 a.
10. Ibid, pl. 53 h.
11. Stella Kramrisch, *The Art of India Through the Ages*, pl. 116.

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The question arises as to what does this symbol represent and how did it originate. Cunningham suggests that it represents the figure of *Stūpa*, while Bhagwanlal Indraji explains it as the figure of *Meru* with a crescent at the top.[1] *Meru* however in the Purāṇas is the name of a fabulous mountain of gold situated at the centre of *Jambūdvīpa* and is the residence of Brahmā in allusion to which the temple top is also known as *Meru*. Durga Prasad questions these theories and says that there are three arches and not one and there is a crescent also at the top. As there are three arches it cannot be a *stupa* and then there is no reference of the moon with *Meru* in our *Paurāṇic* mythology. He is of opinion that, "it represents the abode or the temples of Brahmā, Vishṇu and Śiva, the upper cell with the crescent on top indicating the abode of Śiva. As the coins belong to the Hindu period objects relating to Hindu mythology are expected to be seen in the coin symbols of those days and they should be seen from the ancient Hindu point of view".[2] The difficulties in accepting his view is the absence of Hindu temples in India in the years preceding the birth of Christ and the late dating of the Purāṇas where this conception of the triad is available. Then Theobald has also illustrated a form of this symbol where there is no crescent.[3] It is possible that Chandra Gupta may have adopted it after adding crescent to it as suggested by Durga Prasad[4] but the symbol did exist even before him. The origin of this symbol has therefore to be sought in the forms preceding the Mauryan art.

The nearest resemblance to this form of symbol is the trefoil motif seen in the art of the Indus Valley Civilization. If this hill symbol is the successor of that ancient figure then we can trace its origin to the design on the shawl of the bearded man of Mohenjodaro,[5] on the steatite beads of Harappa[6] and Mohanjodaro,[7] on the pot-sherds[8] and on a stone stand[9] from this site etc. This

1. Durga Prasad, *NS*, Vol. XLVII, p. N. 61.
2. Durga Prasad, *NS*, No. XLV, 1934, p. 44.
3. Theobald, *JASB*, 1890. fig 51.
4. Durga Prasad, *NS*, No. XLVII, p. N. 65 & N 75.
5. Marshall, *MIC.*, pl. XCVIII, 2.
6. Vats, *Excavations at Harappa*, pl. CXXXII fig. 2, a, b, c, e.
7. Mackay, *FEM*, pl. CXXXVI, 57, 66, 71 etc.
8. Ibid, pl. LXVIII, 10, 15.
9. Ibid, pl. CIV-26, CVII-35.

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trefoil reappears in Indian art in the mediaeval temples within *Chaitya* windows.[1] Outside India the trefoil figure occurs on the bull from Sumer as well as on an etched carnelian bead of Ur of the same period.[2] We also come across a later Hittite seal in the form of trefoil.[3] Similarly it appears on a potsherd from Samarra[4] and on a sherd from Tehechme Ali in Persia.[5] This trefoil decoration is also visible on the scabbards of the short swords carried by the palace guards of Cyrus sculptured on the walls of Persepolis.[6] As such it has a wide distribution and an ancient lineage.

The question, however, which now arises, is the origin of the trefoil symbol. Does it represent the plant of clover or the ordinary plant with three leaves joined together resembling this symbol in form or is it associated with some sacred idea like the trinity with which Durga Prasad connects it or with three faced deity seen on the seal of Mohenjodaro.[9] There is no doubt that it was held in some reverence among the people of Crete as it has been found on a piece among the many gold objects in the tomb of Machlos.[8] Perhaps it was thought to afford some kind of protection to the wearer of the objects bearing the symbol and had a religious significance.

This symbol of trefoil is formed by three intersecting circles as Mackay has suggested[9] but there should be some meaning in marking the objects with these circles. What could this figure represent is a problem ? We know, however, that the witch-doctors in primitive societies, even today, make circles for inviting spirits to exercise them. They believe that once the spirit enters a circle it cannot get out of it as it has no sides and no angles. It gropes round like a child in the womb and does not find an outlet.

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1. Stella Kramrisch, *The Art of India Through the Ages*, Back of the Cover.
2. Leonard Wooley, *Royal Cemetery*, pl. 133 perhaps of Indian Manufacture.
3. *Die Friibhretisehen Siegel*, pl. IV, fig. 10.
4. E. Herzfeld, *Die Ausgrabun gen Von Samarra*, V, p. 28. fig. 44. b.
5. *Memoire Delegation en Perse*, XX, p. 118 fig. 24.
6. *Times*, Feb. 4. 1933.
7. Mackay.
8. Evans, *Palace of Minos*, I, p. 96 fig. 44 b.
9. Mackay, *Further Excavations at Mohenjodaro*, p. 666.

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It is also believed that if a person sits within an enchanted circle he cannot be harmed by an evil spirit. The witch-doctor thus sits in one circle and makes the subject sit in another while the third is made for the spirit. In the *Kathā Sarit Sāgara* we find that the charmed circles when made with substances like milk or ashes possessing mystical powers protect the person enclosed within them from malevolent spirit agencies.[1] Such beliefs existed even in mediaeval Europe and circles were believed to have magical potency.[2] We see in ancient Rome Popilius Laenas delivering an ultimatum from the Senate of Rome to king Antiochus and drawing a circle with his staff round him to protect himself from the wrath of the king.[3] A Chinese charm consisted in laying a circle of ashes round a dying person to resuscitate him[4] as the Chinese believed that the spirit can not leave a charmed circle. The Babylonian texts refer to Usurtu which was a circular object of some metal and was employed in curing seriously ill persons. The priest recited over the sick person the following incantation, "of Ea am I.....the messenger of Marduk am I.....the circle of Eas is in my hand".[5] Like the various *Tāntrika Chakras* of India, Kabbalistic lore was called upon for the exploitation of names and numbers of power to be inscribed within a circle. These had innumerable varieties according to the purpose, the time and the species of spirit to be invoked.

It appears as if this symbol represented the three enchanted circles which had in all probability a religious significance among the primitive predecessors of the Harappan people and the people outside India. It was later adopted by the people of the Indus Civilization and was believed to protect the person wearing ornaments and clothes bearing this potent symbol. It is also possible that it might have been carved on objects which were specially consecrated. As Mackay has suggested the people of the Indus Civilization were very fond of drawing circle[6] and the

1. Somadeva, *Kathā Sarit Sāgara*, tr. Taney, Vol. I, p. 337.
2. *E.R.E.*, James Hasting, Vol. VIII, p. 321; F. Barret, *Magus*, London, 1801, Vol. II. p. 105.
3. Cicero, *Philosophy*, VIII, 8, 23.
4. J. Doolittle, *Social Life of the Chinese*, New York, 1867, I, p. 126.
5. R. C. Thompson, *Semitic Magic*, London (1908) p. XXIII.
6. Mackay, *Further Excavations*, Vol. I, p. 665.

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trefoil motif consisting of three intersecting circles was their special favourites, which fondness would not have been without reason. The sacredness born out of magico-religious belief about this symbol by the predecessors of the Indus Valley people might have contributed to its attraction.

Later when the significance of this symbol was obliterated from the memory of the Indian people, they might have begun to draw it differently and add to it other symbols like the tree, the *Nandipāda*, the crescent moon etc. to impart to it a new force. The method of the representation of this symbol was probably changed by efflux of time and it began to look like hillocks as it is seen on Punch-marked coins, but in its original form it would have only been the design of three intersecting circles represented like a trefoil which had a meaning and purpose.

Thus it appears that this symbol of Hillocks is in its origin the representation of three enchanted circles.

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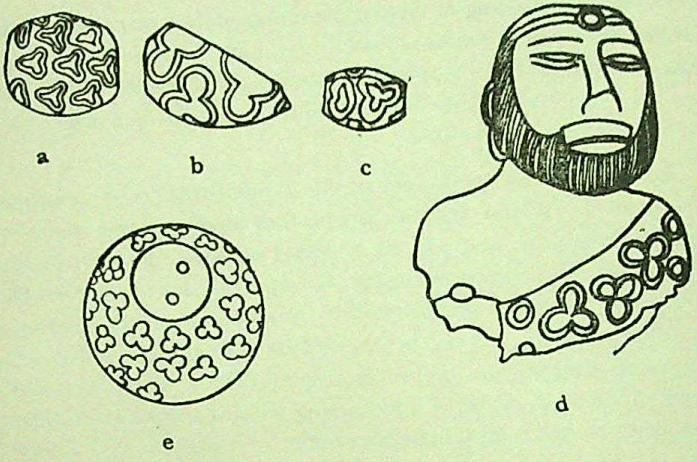

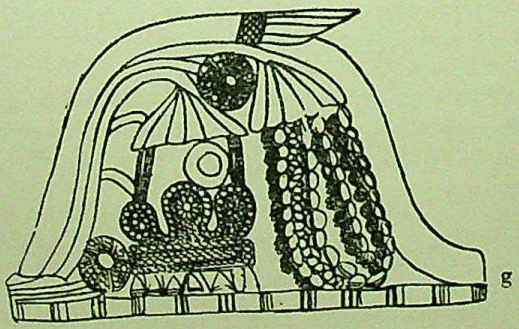

Figure I

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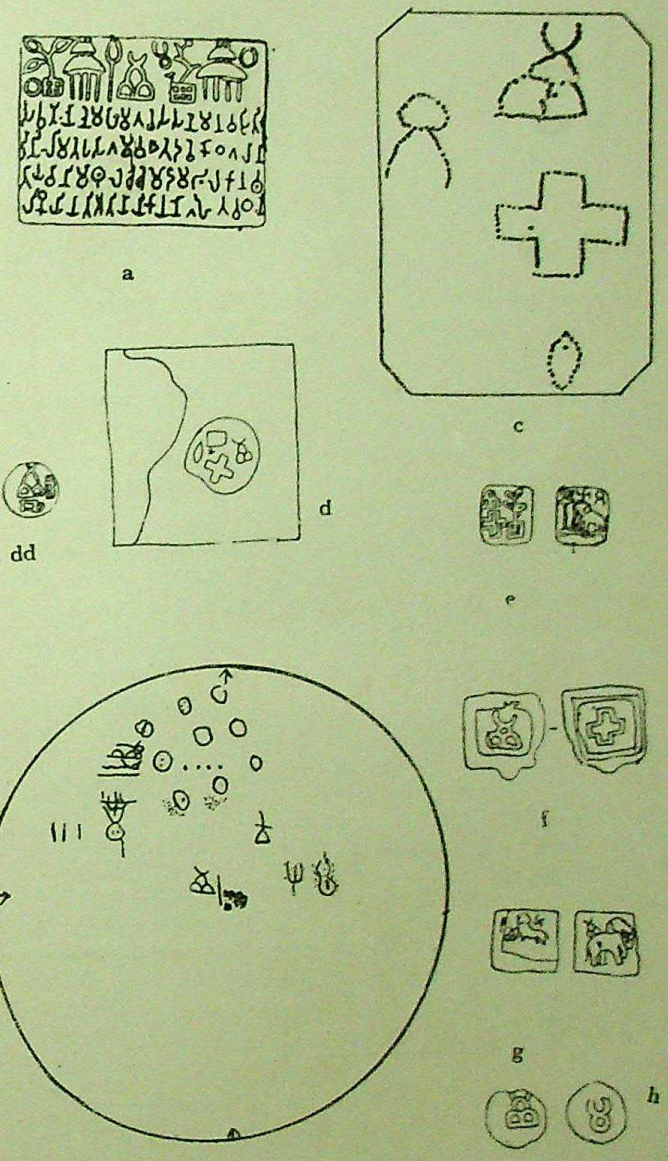

Figure II

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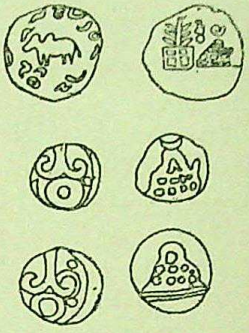
a

b

c



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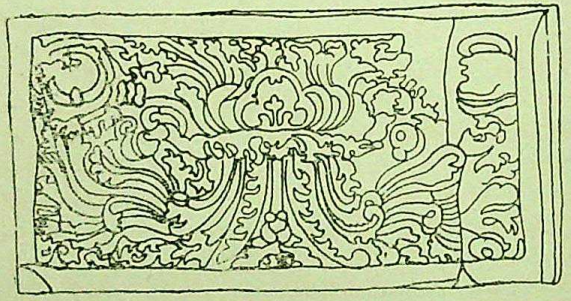

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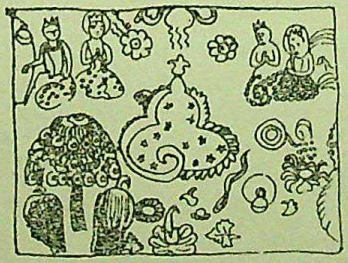

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Figure III

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Foreign Influence and Local Coins*

A. N. Lahiri

It is well known that coinage did not evolve in a uniformly set pattern throughout the vast subcontinent of India. In the early experimental stage when metallic currency was universally acknowledged as the most convenient medium of exchange, various, localities, virtually isolated as they were from one another, gradually evolved their respective coinages[1] by various primitive but indigenous processes of manufacture, adopting weight-standards largely indeterminable. But all the experiments were not apparently successful and popular. Many of them did not long survive the experimental stage, while quite a few were successful and were at least continued for some time. And, strangely enough, due to a remarkable conservatism on the part of the moneyers and the users of coins of different localites, some more or less pronounced characteristics prevailed in the coinages of different localities. Hence Rapson's dictum, 'Indian coin-types are essentially local in character.[2]" In a particular locality not only a particular type but also a particular metal, fabric, shape and weight-standard became popular.[3]

However, local coins of ancient India may be divided into two groups, (1) the 'archaic' or the most primitive pieces which were manufactured when writing on coins did not come into vogue, and (2) the 'later' inscribed coins which bear the names of the issuing authorities.

The 'archaic' coins consist, according to the processes of manufacture, of five categories, (1) the 'Wheel-marked' or the so-called 'Bent-bar' and allied issues,[4] with two or one broad symbol, (2) the so-called 'Saucer-like' or 'Cup-shaped' coins generally bearing four broad symbols,[5] (3) the so-called 'Punch-

—*Editor*

* Paper submitted after the Seminar.

1. S. K. Chakrabortty, SAIN, p. 126.
2. BMC. Andhra, p. xi.
3. Ibid, p. clxv f.
4. NC, 1954, p. 163.
5. JNSI, II, pp. 51-52, Pl. IV-B and NS, XLV, pp. 9-12, Pls. I-III.

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marked' coins generally with five comparatively minute symbols,[1] (4) the 'uninscribed' cast coins bearing various symbols,[2] and devices, and (5) the 'uninscribed' die-struck pieces with various symbols and devices.[3]

On the other hand, 'later' inscribed coins are strictly confined to—(1) the cast and (2) the die-struck issues. Thus, both 'cast' and 'die-struck' coins bearing symbols and devices are either 'uninscribed' or 'inscribed'.

The (uninscribed) 'archaic' coins of the first four processes of manufacture and the (inscribed) 'later' coins of the cast process are now generally considered to be of indigenous origin, since they are devoid of any posssible and visible foreign influence.[4] But opinion differs about the indigenous origin of die-struck coins, as coins of this process of manufacture were widely current outside India and as die-struck coins became widespread amongst various local series after the advent of the foreigners, specially the Greeks. Hence it has often been held that ancient Indians learnt the art of die-striking from the foreigners, which means that die-struck coins came into vogue in India after the advent of the Greeks.[5] Not only this, some scholars even hold that, besides the die-striking process, Indians also learnt the use of writing on coins from foreigners.[6] The round shape, again, is attributed by some to foreign influence.[7]

However, of the three suppositions that the Indians learnt from the Greeks (1) the art of die-striking, (2) the custom of writing legends on coins, and (3) the general convention of making their coins *round*, we may dismiss the last as unwarranted, since all the 'Saucer-like' coins[8] and many of the 'Punch-marked' coins,[9] which were evolved independently before the advent of

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1. JNSI, XXIII, p, 92, Pl. V, 13-17.
2. BMC, AI,
3. Ibid, Pls.XXXII-XXXIII.
4. BMC, AI. pp. lxxxviii, xciv.
5. SAIN, p. 126,
6. Ibid, p. 138. (*The Age of Imperial Unity*, p. 159, and n. 1).
7. *The Carmichael Lectures*. p. 148 and n. 1,
8. NS, XLV, Pls. I-III.
9. BMC, AI, Pl. II, 18, Pl. III, 21, Pl. IV, 14.

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the Greeks and in a thoroughly indigenous process are 'round' in shape.

Then, with regard to the custom of writing legends on coins, it is not easy to believe that foreigners or foreign coins were responsible for it. For, some of the early 'cast' coins, evidently manufactured quite independently and in a thoroughly indigenous process, are duly 'inscribed'.[1] "The casting of coins", says C. J. Brown, by pouring molten metal into a cavity formed by joining two moulds together must have been a very ancient practice in India. ..... The coins are for the most part anonymous. Even after striking from dies had superseded this clumsy method in the North West we find cast coins being issued at the close of the third century by the kingdoms of Kausambi, Ayodhya and Mathura, some of which bear the names of local kings in the Brahmi script".[2] Now, casting coins by moulds was undoubtedly an indigenous process, since India alone had regular and wide use of a cast coinage, while is no other country in the West cast coins were current in such an extensive scale. And Brown has shown that manufacturing coins by the casting process was prevalent even when Alexander invaded India. For "Nearchus, the companion of Alexander, says that the Indians used only cast bronze but not hammered."[3]

However, so far as cast coins are concerned, Ayodhyā and Kauśāmbī are amongst the most prolific areas to yield them, and John Allan is confident that the cast coins, at least of Ayodhyā and Kauśāmbī, are of indigenous origin and show no trace of foreign influence.[4] After dealing with the 'uninscribed' cast coins of Kauśāmbī, Allan takes up the 'inscribed pieces and says, "Closely connected with the preceding in style, types, and date are the inscribed coins bearing the names of Sudeva (*Sudevasa*) (no. 14) and Bṛihaspatimitra (*Bahasatimitasa*) (no. 15), which cannot be later than the first half of the second century B. C., and might even be as early as the third century."[5] If this is so, the cast city issues of Kauśāmbī bearing the legend *Kasa*[*m*]*bi* which must have

1. BMC, AI, p. xcix.
2. CI, pp. 18-19.
3. Strabo, XV, C. 716; CI, p. 18, n. 1.
4. BMC, AI, pp. lxxxviii, p. xciv.
5. BMC, AI, p. xcix.

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come prior to the dynastic issues bearing the names of Sudeva and Bṛihaspatimitra should be placed at a still earlier date.[1]

The same was apparently the case with the rare cast city issues of Erakina (Eran).[2] the round cast pieces bearing the legends *Upagodasa*[3] and *Upālikyā*,[4] probably also the more organised and comparatively abundant series of cast coins that exhibit the enigmatic legend *Kāḍasa*.[5] And since these early miscellaneous inscribed cast coins do not betray any foreign influence either in their types or in their mode of manufacture, and since many of them preceded the coins produced by the die-striking method, which is supposed to have started (along with the custom of writing legends on coins) with the advent of the Greeks, we may safely hold that moneyers of India did not learn the art of inscribing coins from any foreigner. If this is so, we need not subscribe to the belief that the custom of inserting legends on coins came from the Greeks. In the natural course of evolution writing legends on coins came into vogue in India, and that too when the 'clumsy' casting method was not altogether superseded by the more sophisticated method of die-striking.

Thus, when it is clear that the Indians did not learn either the technique of making their coins 'round' or the art of inscribing them from the Greeks, it remains for us to see if the Indians themselves invented (or evolved) the system of striking coins from dies or learnt it from foreigners (or adopted it from foreign examples).

First of all, we should know what is actually meant by a 'die' and if there is any difference between a 'die' and a 'punch', as was used to produce the so-called punch-marked coins. So far as dies are concerned, they may have one or two forms. When symbols or devices were to be impressed only on *one side* of the

1. The city issues of Kauśāmbī bearing the legend *Kosa* [*ṁ*] *bi* are more primitive than the dynastic coins issued by Sudeva and others. The *Kosaṁbi* piece cannot be placed after the dynastic issues, since they have an unbroken continuity.
2. *BMC*, AI, pp. xci-xcii,
3. Ibid., p. 263, Pl. XXXV, 18.
4. Ibid., p. 263, Pl. XXXV, 19.
5. Ibid., pp. xcii-xciii, p. 145-146. Nos. 1-8 pl. XIX. 14-17, 19 and Nos. 9-14, Pl. XIX. 10-11, 18, 20, *CAI*, Pl. II, Nos. 21,122. IC p. 8.

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coin, one punch-die along would do;[1] but when the coin was to have the impressions on *both sides*, two dies were necessary—the 'punch-die' and the 'anvil-die'. A 'punch-die' was but a cylindrical bar having at one end either a number of symbols or a broad device cut in *intaglio*.[3] Thus when placed on a coin-blank and struck at the other end by a hammer, the die produced on it *in relief* the combination of symbols or the device on *one side*, which on a single-die coin may be called 'obverse'.

For a double-die coin the anvil-die is *also* necessary. It is but 'an intaglio, cut in an anvil', which bears a group of symbols or a device. The coin-blank is first placed over the anvil-die and then the die-punch is put on the blank and struck heavily with a hammer, so that the blank 'squezed' between hammer and anvil received punch-impression on its upper side while its under side took on a design in relief.'[4]

The 'punch' that the Indian moneyers used earlier to impress symbols on the so-called 'Punch-marked' issues was different from the 'punch-die' their later counterparts used for striking coins. The 'punch' was comparatively small, it bore *in relief* (instead of *in intaglio*) only one minute symbol, as against a group of symbols (or a broad device) *in intaglio* borne by the 'die-punch'. While several punches were employed one after the other to impress *separately* individual symbols of the punch-marked coins, one single punch-die could do the job alone and impress on a blank a number of symbols or a broad device *at the same*.[5] Consequently, the use of the minute punch and the broad die-punch involved different technical considerations. The punch with its tiny dimension could ordinarily be used to impress an incuse symbol on an unheated *hard* blank without causing much damage either to the punch itself or to the latter. But while striking with a much broader die-punch the blank had first to be softened to some measure by heating it so that neither the die-punch (and also the anvil-die) nor the coin-blank would be damaged or cracked by the impact. The

1. C. Seltman, *Greek Coins* (GC), p. 21.
2. Ibid., p. 22.
3. BMC, AI, Pl. XXXIV, 11 (obv.) and 10 (rev.) and Pl. XXXIV. 18.
4. BMC, AI, Pl. XVIII, 12; ibid., Pl. VIII, 9; ibid., Pl. IV, 10.
5. BMC, AI, Pl. XXXVI. 10; ibid., Pl. XXXIV ibid., Pl. XXXIV. 1.

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die-punch was again, at least at the early stage, made somewhat smaller than the blank, and as a result we would often see an 'incuse' impression, which, as Allan aptly says, 'is characteristic of the earliest Indian copper coin.'[1]

Now, since from a technical point of view the first three categories of 'archaic' coins, viz, the 'Wheel-marked' issues, the 'Saucer-like' coins, and the ordinary 'Punch-marked' pieces, fall under the 'broad category' of the punch-marked coinage, and since we have already dealt with the cast coins, it now remains for us to discuss the question of the early die-struck coins of India, which may be of four broad classes—(a) 'uninscribed' single-die coins, (b) 'uninscribed' double-die coins. (c) inscribed' single-die pieces, and (d) 'inscribed' double-die issues. But though it is natural to hold that coins with legends came after those without legends, we cannot say with any amount of certainty that in all places all the four classes of struck coins, just noted, represented four distinct stages of evolution. For, it is only in the Taxila region that we come across coins of all the four classes.[2] And even then we do not know whether coins of Class (b) preceded those of Class (c) or followed them. However, for the sake of convenience we shall take up the question of the four broad classes of struck coins in the order we have enumerated them.

(a) *Uninscribed Single-die Coins*

Technically speaking, the squarish or round lower denominations of the so-called 'Bent-bar' or 'Wheel-marked' coinage (which are not 'bent' due to their shorter size) which bear a device in the form of a six-pronged symbol may be called 'die-struck' coins, since they are struck by what is virtually a die-punch.[3] However, an examination of various other miscellaneous single-type 'archaic' issues which bear either a group of symbols or a broad device (with or without minute symbols)[4] do not show any foreign influence.

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1. BMC, AI, p. cxl, BMC, AI, Pl. 1. 16-19.
2. BMC, AI, pp. 214-216; Pl. XXXII, 1, Pl. XXXII, 21, Pl. XXXIX, 1, and Pl. XXXI, 2.
3. BMC. AI, Pl. I, 4.

4a. BMC, AI, p. 8, Pl. I, 16-19; ibid, p. 6, Pl. I, 7, 11-13, 15; Ibid, p. 10, Pl. I, 25-26; Ibid, pp. 230-31, Pl. XXXV, 2.3: Ibid. pp. 219-223. Pl. XXXII, 1-15; JNSI, XXIV, pp. 134-36, Pl. III. 3-9; Ibid, pp. 230-31, Pl. XXXV. 2-8; IMC, I, p. 157. Pl. XX, 7.

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The above single-type silver and copper coins are typical examples of India's earliest die-struck issues. Coming from various localities, these miscellaneous 'archaic' coins represent different stages of experimentation and evolution. They were apparently not manufactured all at one time. They may possibly be dated in the third century B. C., some having been issued in the first half and some in the second. When carefully compared with earlier or contemporary issues of Western countries, our coins do not betray any influence exercised by them. This holds good so far as their types, fabric and weight-standrads are concerned. Even if some remote similarity is detected between any of our coins and a contemporary or earlier issue of a foreign country, it will be hard to prove any possible contact between the people producing them and a consequent influence of the foreign coin on the Indian piece.[1] Moreover, no foreign coin which may have excercised any influence on our coins has, as far as we know, been discovered in India. It is worth noting here Rapson's view about the indigenous origin of the single-die coins of Taxila, where the 'art of striking from a die would seem to have been known.....at an earlier period than elsewhere in India'. "The earliest specimens", says Rapson, 'are struck only on one side, and by a method peculiarly Indian, according to which the metal was stamped while in a semi-molten state, with the result that the impress of the die was left enclosed in a deep incuse square".[2]

(b) *Uninscribed Double—Die Coins*

As against the above'archaic' single-die coins ***with blank reverse***, there are quite a good number of early uninscribed double-die coins—with devices impreseed on both the obverse and the reverse. Most of these coins were struck at a period apparently later than that producing the single-die coins.

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1. IC, p. 14.
2. BMC. AI, p. 9. Pl. I, 20; Ibid, p. 144, No. 32, Pl. XIX, 3; Ibid. p. 144, No. 33, Pl. XIX, 10; Ibid, p. 248, No. 22, Pl. XXXVI, II; Ibid. p. 264, No. 125, Pl. XXXVI, 6; Ibid, p. 232, No.148, Pl. XXXIV, 13; Ibid, 282, Pl. XXXIV, 10-11; Ibid. p. 286, No. 169, Pl. XXXV, 11; Ibid, p. 234, No. 158, Pl. XXXIV, 18; Ibid. p. 229, No. 122, Pl. XXXIV, I; Ibid, pp. 223-26, No. No. 73-98, Pl. XXXII, 17-22, Pl. XXXIII, I; Ibid, pp. 226-27, No. 99-106, Pl. XXXIII, 2-7; Ibid, No. 107, Pl. XXXIII, 7.

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Thus, while there is practically no doubt about the indigenous character of the miscellaneous uninscribed double-die coins from various places dispute arises with regard to the Taxila square copper coins with certain motives. Let us first take up the 'Rakshasa' (*BMC.* pl. XXXIV. I] Rapson, seems to ignore them, while Cunningham,[1] Smith[2] and Allan[3] describe them without making any serious comment on their bearing on other Indian coins. But S. R. Chakrabortty makes a categorical statement on the bearing of the coins on the die-struck issues of ancient India. He sees in the obverse type 'a very close imitation' of the Gorgon head, as seen on some sixth century B. C. Athenian coins. (Cf. C. Seltman, *Greek Coins*, 1965, Pl. IV. 11). "That the particular coin is of Indian origin", says he, "is evident from its square shape, the metal used, the system of manufacture and the weight." It can be definitely pronounced to be an imitation of a Greek device and the Greecian influence over. the die-struck coins has to be taken for granted.[4]"

Chakrabortty believes that foreign influence felt itself on Indian die-struck coins through the imitation Rakshasa pieces. According to him, inscribed coins like the *Vaṭaśvaka* and the *Kāḍasa* pieces are to be assigned to a period not latter than the third century B. C. Uninscribed coins which preceded them should therefore be placed in the fourth or even the fifth century B. C. The uninscribed Rakshasa coins modelled on the Athenian coins with Gorgon's head, 'which were not minted after the Persian invasion of Greece' would thus, according to Chakrabortty, be 'as old as the 5th century B.C.' and would incidentally be the earliest die-struck issues in India. And since the die system moved from the west of India to the east and the south in course of several centuries. Chakrabortty finally concludes that "foreign influence in the earlier stage, specially in Gandhara and the Punjab region, must be accepted."[5]

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1. CAI, p. 63.
2. IMC. I, p. 159, No. 35.
3. BMC. AI, p. cxxxV.
4. SAIN. p. 126.
5. Ibid. p. 213.

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We do not think that the 'Rākshasa' coins are as old as the fifth century B. C. They are almost certainly latter than the single-die uninscribed Taxilan copper issues, which cannot possibly go before the third century B. C.[1] In that case the 'Rākshasa' coins are to be placed sometimes in the latter half of the third century B. C.[2] Now, the resemblance between the 'Rākshasa' head of the Taxilan copper coins and the Gorgon-head of the Athenian silver issues seems to be purely coincidential, and not due to any deliberate imitation. For, it is difficult to see how a type of the third century B. C. Taxilan copper coins can possibly be imitated from that of some three hundred year-old silver coins of distant Athens. If, however, one holds that the resemblance between the two types, far separated by time and space, is due to deliberate imitation on the part of the die-cutter of the Indian piece, we would explain it away by supposing that some Athenians, perhaps belonging to an influencial trading community and living on the western fringes of the Taxilan region, struck these coins with a device somehow resembling the famous Gorgon-head of their own old silver coins *on the line of the local* double-type copper coins (*BMC, AI*, pp. 227-228, Nos. 108-121 Pl. XXX-III. 10-15) maintaining their shape and weight-standard and using or adapting[3] some of their characteristic symbols.

Then, arises the question of the Lion-Elephant (*BMC*, pls. XXXII. 17-22, XXXIII-1) and the Horse-Elephant coins (*BMC*, pl. XXXIII 2-7). Allan[4] believes that both of them, linked as they were in various ways, were issued by Greek kings of Taxila. So far as the coins of Lion-Elephant Type are concerned, the star and the Greek-type monograms on them indicate that they were not issued by Indians. The star and the plant, again link those coins with some of Agathocles' Indian copper issues. The lion

1. Cunningham considers them "to be anterior to Alexander" CAI, p. 61. But when we consider that the Greek kings, specially Pantaleon and Agathocles who ruled in the first half of the second century B. C. copied them, particularly their technique; we cannot place them before the third century B. C.
2. Allan places them (coins of Class 3) in the first quarter of the second century B. C BMC, AI, p cxxxiv.
3. The form of the harp-like reverse design of the 'Rākshasa' coins appears to have been adapted from the plant symbol. BMC, AI, Pl. XXXIII, 12.
4. BMC, AI, p. cxxxv.

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on coins connects them with the famous Lion-obverse copper coins of Pantaleon and Agathocles[1]. However, as regards the dates of the Lion-Elephant and the Horse-Elephant coins, Allan thinks that "the latter may be little latter than the former," since the Lion-Elephant coins were found together with square single-die Taxila copper coins (*BMC*, pl.xxxiv. 10-11) above and the bilingual Lionobverse copper coins of Pantaleon & Agathocles. Cunningham,[2] who was possibly the first to make a thorough study of the Taxila coins, also made relevant observations regarding the Horse-Elephant coins, suggesting that the horse had been copied from the copper coins of Euthydemus and that the Greek monogram might refer to Taxila. According to Rapson[3], again, the Lion-Elephant coins, "the art of which .. . has an undoubtedly Greek appearance, are probably due to their influence". We have nothing to say about these relevant and keen observations. As a matter of fact, we believe that Allan's study of the Lion-Elephant and the Horse-Elephant coin is technically sound and his estimate of their sequence is reasonable.

But even when we admit the Greek origin of the two types of coins, we do not think that they exercised any influence over the uninscribed struck coins of Taxila, (*BMC*, Pl. XXXIV. 11, 13, 18) And this holds good with the coin No. 169 of *BMC*, which must have preceded all the double-die issues, *including those of* nos. 73-106, 122 of *BMC* struck by indigenous or foreign authorities. Thus is it proved that Indians themselves were responsible for the evolution of the struck coins of Taxila, whether impressed by single or double dies. And paradoxically enough, it becomes logical to say that in Taxila early coins issued by foreigners were rather influenced by indigenous issues:[4]

(c) *Inscribed Single-Die Coins*

Besides the uninscribed single-die coins, there are some single-die issues which are duly inscribed. The inscriptions or legends

1. A. N. Lahiri, CIGC, Pl. XXVII, 11 and Pl. II, 11.
2. CAI, p 52
3. IC, p. 14, Sec. 56.
4. BMC, AI, p. 140, No. 1, Pl. XVIII,6 Ibid, p. 239, No. 1, Pl. XXV, 14; Ibid, p. 264, No. 1, Pl. XXXIX, 2; Ibid, p. 279, No. 3, Pl. XLY, 11.

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they bear invariably short ones, consisting of the name of a person, or place or of a word of unknown significance.

The fact that these Indian-type miscelleneous inscribed coins are struck from a single die indicates their high antiquity. The coin of Dharmapāla of Eran is of great interest for various reasons. It is possibly the only ancient Indian coin bear a legend alone, and not device. The way in which the legend was impressed on the flan clearly shows how the writing was effected. The person who as to out the name of the issuer on the die, did not know how to do it, he cut the letters on the die 'in the positive way' and *from left to right* instead of 'in the negative way' and *from right lo left*. The consequent effect is curious. The coin being struck with the wrongly-cut die has the legend *reversely impressed*. However, it represents the earliest attempt at inscribing a die-struck coin in an indigenous manner—and evidently independently of a foreign example. One may not agree with Buhler in ascribing the coin to the pre-Asokan days, but one may not reasonably place it at any period later than the last quarter of the third century B. C. Of apparently slightly later date are the *Vaṭaśvaka* coins and those of the ancient cities of Tripurī and Māhishmatī. We do not think that any foreign coin exercised any influence over these early inscribed single-die coins with indigenous characterisation and having nothing in common with any known western coin.

(d) *Inscribed Double-die Coins*

The earliest inscribed double-die coins known in copper only, come from three ancient sites, Taxila, Ujjain and Eran.[1]

Of the Taxila pieces, the earliest seem to be the well-known Negama coins showing mainly writings on both sides.[2] Then come the more complex *Hiraṇasame* (*Hiraṇyāśrama*) coins which were later imitated by Agathocles, who was perhaps the second Indo-Greek king (after Pantaleon) to strike coins with an Indian legend.[3] The city-issues of Ujjain and Eran also fall into this early category of inscribed double-die coins. None of them betrays any trace of foreign influence.

1. BMC, AI, p. 215, No. 7, Pl XXXI. 6; Ibid. p. 261, No. 106, Pl. XXXVII, 15; Ibid, p. xci (Eran coins); PMC, p. 18, Pl. II, 51.
2. Some of them also bear some symbol like the steel-yard balance, see, BMC, AI, Pl. XXXI. 2
3. Proc., IHC. 1966, p. 145,

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CONCLUSION

We hope, our above thorough and critical study of the early struck coins of India will permit us to conclude that in India the die-striking process, beginning from the single-die system to the double-die one, was *gradually* and *in a normal and natural course* evolved by Indians themselves-through a good deal of experimentation at various localities. This is true, as we have clearly seen, not only of the uninscribed but also of the inscribed coins, whether struck by a single die or by double dies.

But even then, we must admit that inspite of their ingenuity the coins that ancient Indians produced at the last stage of their experimentation do not compare well with the contemporary die-struck pieces of Greece and Rome. And incidentally this very fact clearly indicates that the Indians did not learn the art of die-striking from foreigners. For had they learnt it from Greece and Rome, they would, as aptly argued by E. Thomas, straightaway imitate contemporary Greek and Roman coins and save themselves the trouble of going through a lot of experiments.[1] Moreover, it is significant that none of the above examples of the four categories of die-struck coins is comparable in technical details to any foreign money issue so far known.

Of course, by saying all these we do not want to assert that foreign influence is totally absent from ancient Indian die-struck coins. As a matter of fact, with the advent of the Greeks and their foreign successors and their considerable sway they had over a large part of North-Western India, coins struck by indigenous authorities gradually began to be influenced by the technically superior issues of the foreign rulers. Copper coins which manifestly retained their local characteristics due to an inherent conservatism amongst their issuers were immune from foreign influence for a considerably long time—practically up to the decline of the imperial Kushan power; for it was probably the copper issues of the later Yaudheyas that bear for the first time the impact of Kushan copper coins.[2]

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1. Edward Thomas, *Ancient Indian Weights*, p. 55.
2. BMC, AI, Pl. XL, 1 (Yaudheya) and PMC, I, Pl. XVIII, 67 (Kaushāna). the depiction of the reverse deity of the Yaudheya coin is evidently influenced by Kushān coins such as this. Moreover, the fabric and weight-standard of the Yaudheya coin are characteristic of the Kushān specimen.

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But quite contrary was the case with the rare indigenous silver issues, for they imbibed a marked foreign influence at a much earlier period. Silver coins of the Punjab tribes like the Audumbaras,[1] Kulutas,[2] Kunindas[3] and the Vemakis.[4] for instance, were influenced to a considerable degree by the bilingual Indian drachms of the Indo-Greek kings. Not only their fabric and devices, but also their weight-standard as well as the form, content and arrangement of their legends bear testimony to a marked Hellenistic influence. The position may well be illustrated by a single, viz. the silver coin of the Audumbara king Daraghosha (*BMC, AI*, p. 124, No. 21 Pl.XVI. 14). It is of the characteristic thin fabric and denomination of the Indian drachm introduced by Eucratides I.[5] The depiction of the obverse deity Visvamitra reminds us of that of Heracles' on Lysias coins.[6] The coin, like all Indo-Greek issues, is biscriptual and virtually bilingual, giving on its two sides legends in two Prakrit dialects written in two scripts, Kharoshthi and Brahmi. The legend, again, like that of all coins of the Indo-Greek rulers, provides for its issuer Dharaghosha a royal title *rano* ('or *rajna*) and an epithet *Mahadeva*. The greater part of the legend, viz. *Mahadevasa rano Dharghoshoshasa*, is written above the device in a semi-circle, while the rest, *Odubarisa*, is shown below it—as on most Indo-Greek coins.[7]

Of course, coins of the Yaudheyas and the Audumbarsas, Vemakis, etc. do not, strictly speaking, fall under the category of 'Local Coins', known as they generally are as 'Tribal Coins'. In that case, we may almost categorically state that ancient Indian 'Local Coins' were thoroughly immune from foreign influence. It is as true of the 'City Issues' of Eran, Ujjain, Tripurī, etc. as it is of the 'Country Issues' of Pañchāla, Kauśāmbī, Ayodhyā and other well defined regions. In the Mathura area *also* this was the case.

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1. BMC. AI, Pl. XIV, 14.
2. BMC. AI, p. 158, Pl. XVI. 4.
3. BMC. AI, Pl. XXI, 1.
4. Ibid. Pl. XIV, 23.
5. CIGC. pp. 16 and 36.
6. Ibid. Pl. XXIII, 9.
7. For instance, the coin of Menander I Soter, CICC, Pl. XXIV, 5,

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The Śaka satraps, even though brought in there their own non-Indian types of coins, as did Rañjuvula at the initial stage of his rule at Mathurā, ultimately went in for the thoroughly Indian 'local' types of the Hindu rulers.[1]

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1. Rañjuvula at first issued bilingual Greek-type coins with Greek and Prakrit (Kharoshthī) legends : (BMC, AI, p. 185, No. 98 Pl. XXVI, 7 in silver) and p. 187, No. 123 Pl. XLIV, 3 (in copper). But later on he issued coins of the monolingual Indian type with Prakrit (Brāhmī) legend and bearing on the obverse 'the standing Lakshmī, and on the reverse *'Abhisheka* of Lakshmī', *characteristic of Mathurā* (BMC. AI. p. 187, No. 113 Pl. XXV, 12). His son Śodāsa and other Hinduised Śaka satraps at Mathurā issued coins only of the local indigenous types.

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